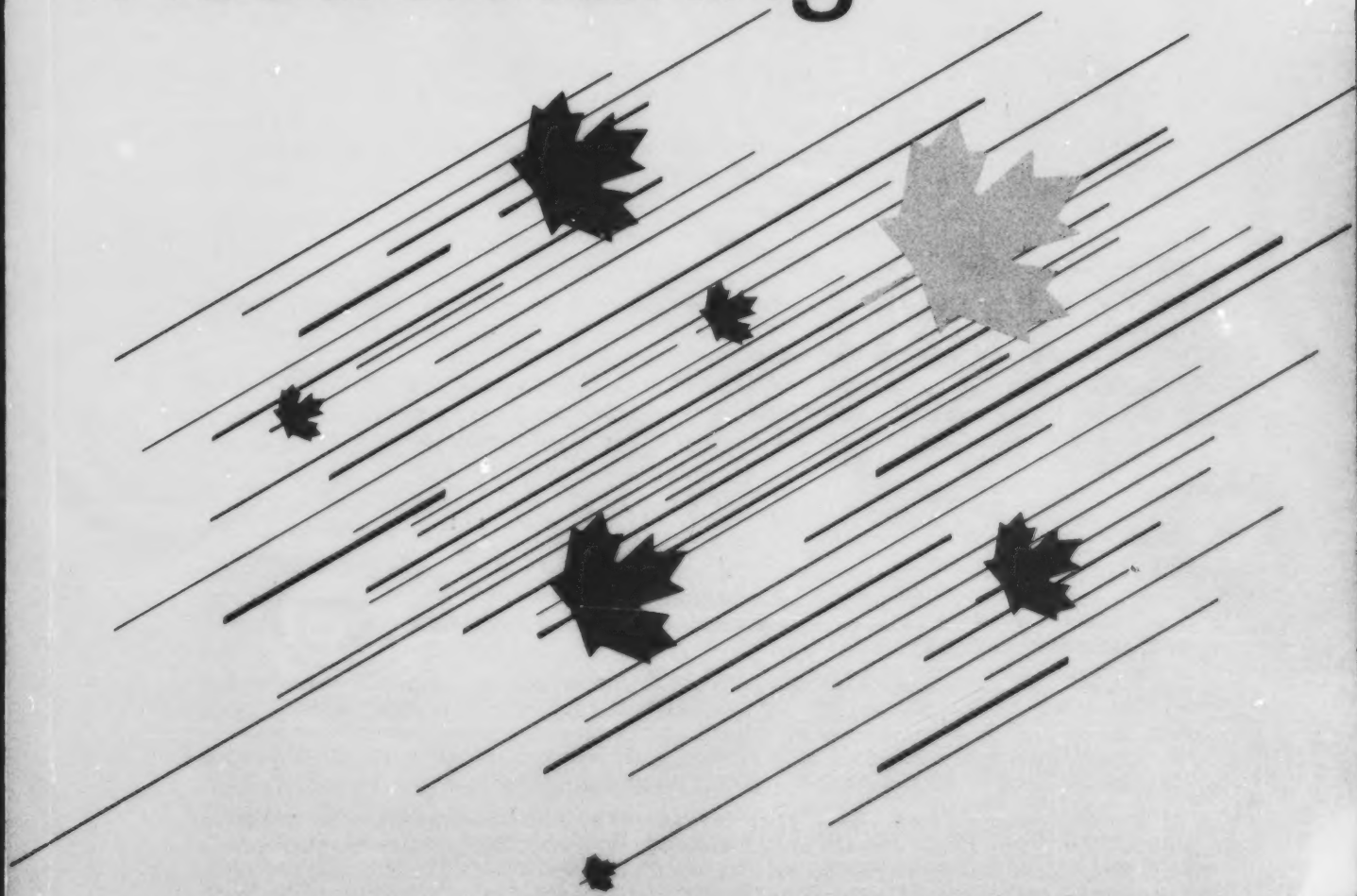
# The Role of Social Policy in Economic Restructuring



by Fred Wien

# The Institute for Research on Public Policy

## A National Presence

Founded in 1972, the Institute for Research on Public Policy is an independent, national, non-profit organization with offices across Canada.

The mission of the Institute is to improve public policy in Canada by promoting and contributing to a policy process that is more broadly based, informed and effective.

In pursuit of this mission, the Institute:

- identifies significant public policy questions that will confront Canada in the longer term future, and undertakes independent research into those questions;
- promotes wide dissemination of key results from its own and other research activities;
- encourages non-partisan discussion and criticism of public policy issues in a manner which elicits broad participation from all sectors and regions of Canadian society, and links research with processes of social learning and policy formation.

## Governance of the Institute

The Institute is governed by a Board of Directors, advised by representatives of federal, provincial and territorial governments and of other national research organizations, and by panels of external authorities, drawn into *ad hoc* advisory committees formed to assist the Research Committee. Implementation and administration of the Institute's policies and programs and management of the staff are the responsibility of the president, who is the chief executive officer.

## Method of Operation

The Institute is decentralized, employing researchers across Canada. This ensures that research undertaken by the Institute involves contributions from all regions. The Institute also works with individual researchers or institutes in other countries.

Researchers are hired on contract for a limited period, often the duration of a project. This enables the Institute to renew its staff regularly, to reflect the evolving nature of its research program. It also helps to increase the number of first-class researchers employed by the Institute.

## Independence and Neutrality

The Institute's independence is assured by an endowment fund, to which federal and provincial governments and the private sector have contributed. The Institute receives grants and contracts from governments, corporations and foundations, both to support program activity and to carry out specific research projects.

The Institute promotes public understanding and discussion of issues of national importance, whether controversial or not. It publishes its research findings with clarity and impartiality. It does not control or influence the conduct of particular research or the conclusions: conclusions or recommendations in a publication of the Institute are solely those of the author, not of the Institute, its Board or contributors. The Institute maintains neutrality on issues of public policy.

The president bears final responsibility for the decision to disseminate information under the Institute's imprint. She is advised on the accuracy and objectivity of a manuscript by both Institute staff and outside reviewers. Publication of a manuscript signifies that it is deemed to be a competent treatment of a subject worthy of public consideration. Publications of the Institute are in the language of the author, with an executive summary in both official languages.

# The Role of Social Policy in Economic Restructuring

# The Role of Social Policy in Economic Restructuring

by Fred Wien

The Institute for Research on Public Policy
L'Institut de recherches politiques

This publication is funded with the assistance of the National Welfare Grants Program of Canada Health and Welfare.

92-03417/

Copyright © The Institute for Research on Public Policy 1991
All rights reserved

Printed in Canada

Legal Deposit Fourth Quarter
Bibliothèque nationale du Québec

**Canadian Cataloguing in Publication Data**

Wien, Fred, 1943-

The role of social policy in economic restructuring

Prefatory material in English and French.
Includes bibliographical references.

ISBN 0-88645-140-X

1. Manpower policy. 2. Economic policy. 3. Social policy. I. Institute for Research on Public Policy. II. Title.

HD87.W54 1991 338.9 C92-098525-4

*Camera-ready copy and publication management by*
PDS Research Publishing Services Ltd.
P.O. Box 3296
Halifax, Nova Scotia B3J 3H7
(902) 494-3865

*Published by*
The Institute for Research on Public Policy
L'Institut de recherches politiques
P.O. Box 3670 South
Halifax, Nova Scotia B3J 3K6

To the memory of my father

*Hans Georg Wien*
1908 – 1988

and my friend

*Michael Darragh Baring-Gould*
1937 – 1986

# Table of Contents

*Foreword* ..... ix

*Avant-propos* ..... xi

*Acknowledgements* ..... xiii

*The Author* ..... xv

**Introduction** ..... 1

**I. The Changing Economic Context** ..... 5
1. International Competition ..... 6
2. Changes in Product Markets ..... 10
3. Science and Technology ..... 17
4. Conclusion ..... 26

**II. The Impact of Technological Change on Employment** ..... 29
1. The Level of Employment ..... 30
2. The Changing Skill Requirements of Jobs ..... 34
3. Technology and the Distribution of Employment Income ..... 39

4. Structural Unemployment ..... 44
5. The Distribution of Jobs ..... 46
6. Conclusion ..... 50

**III. Workplace Innovation** ..... 51
1. Workplace Innovation ..... 52
2. New Patterns of Industrial Relations ..... 55
3. The Changing Relationships among Firms ..... 57
4. Conclusion ..... 59

**IV. Education and Training** ..... 63
1. Elementary and Secondary Education ..... 65
2. University Education ..... 68
3. Vocational and Job-related Training ..... 70

**V. The Work/Welfare System** ..... 79
1. The Connection Between Work and Welfare ..... 81
2. Changing Social and Economic Conditions ..... 85
3. Making the Work/Welfare System More Dynamic ..... 87
4. Income Support and Supplementation ..... 91
5. Assessing Recent Policy Directions ..... 97

**VI. The Role of Social Policy in Economic Restructuring** ..... 101
1. Reactive Social Policy ..... 102
2. Facilitative Social Policy ..... 104
3. Assertive Social Policy ..... 107

**VII. Conclusion: The Process and the Prospects of Social Policy Change** ..... 111
1. The Process of Social Policy Change ..... 111
2. The Prospects for Social Policy Change ..... 114

**References and Selected Readings** ..... 119

# Foreword

This study examines the changing economic base for social policy in advanced industrial countries, especially Canada and the United States, and the implications of these changes for social policy.

It begins by outlining three major forces that are reshaping the economy, and their interrelationship: an increase in international competition and the increasingly global nature of such competition; the changing nature of markets for goods and services, including their fragmentation, their uncertainty, the renewed emphasis on quality, and the shorter life cycle of products; and the continuing growth of science and technology.

Clearly these causal forces, and others, are having an important impact on employment. While the employment-related problems to be faced in the 1990s are not entirely new, their changing nature and importance do establish new priorities for social policy. Among them is the need to deal with issues such as the displacement of labour and the greater "churning" in the labour market, the loss of jobs in manufacturing and resource industries (often located in rural areas), the need to shift to largely urban service sector employment, the changing skill requirements of jobs, and the prospect of higher structural unemployment especially for those with low educational levels. There is a need, therefore, for social policy to continue to play a reactive role to these emergent social problems.

However, the relevance of social policy to economic restructuring goes well beyond a responsive role. Economic restructuring involves a host of issues and transitions that are essentially social, political and organizational in nature; there is more to it, in other words, than technical, scientific "hardware" matters. Within the workplace, it involves

changes to the organization of work, to labour-management relations, and to relations among firms. The proper development of human resources is a key consideration, hence the relevance of the education/training system. Also, the connection between the world of work and the income security system needs to be reconsidered. Thus social policy has not only a reactive but a facilitative role to play in economic restructuring.

Finally, it is becoming clear that the pressures forcing the restructuring of economies are eliciting a variety of responses from individual firms. Some try to evade competitive pressures, arguing for protectionism or for more favourable exchange rates. Others attempt to meet competitive pressures by reducing their costs, especially their labour costs, through such mechanisms as resisting increases in minimum wages, seeking to undermine unions, shifting to a part-time, temporary work force, or transferring their operations to locations with lower labour and regulatory costs. A third approach is to increase the productivity and flexibility of the whole organization, emphasizing innovation, technological change, the making of higher value added products, and the reorganization of work. We argue that the latter form of adaptation can best meet the competitive challenge while still maintaining and improving standards of living. And again, social policy is very relevant to the debate. We argue, therefore, for assertive social policies that, in fact, attempt to shape the form and direction of restructuring taken by firms — rather than taking this as given and simply responding to the social problems that result.

The book concludes with a discussion of the changing process of social policy formation in the new economic environment, and the prospects for social policy change in the 1990s.

# Avant-propos

Cette étude examine les changements survenus dans la base économique relativement à la politique sociale dans les pays hautement industrialisés, en particulier le Canada et les États-Unis, ainsi que les conséquences de ces changements pour la politique sociale.

Au début de son étude, l'auteur présente un aperçu des trois forces principales qui sont en train de remodeler l'économie, et il explique les relations qu'elles entretiennent entre elles : la concurrence internationale qui va en augmentant et se globalise de plus en plus; les transformations de la nature des marchés de produits et services (fragmentation, caractère incertain, nouvelle importance de la qualité et brièveté du cycle de vie des produits); l'importance grandissante de la science et de la technologie.

Il est clair que ces forces causatives, ainsi que quelques autres, ont un effet important sur l'emploi. Bien que les problèmes d'emploi auxquels nous devrons faire face dans les années 90 ne soient pas vraiment nouveaux, leur nature changeante et leur importance font que la politique sociale devra désormais fonctionner selon de nouvelles priorités. Entre autres, il faudra trouver des solutions à des questions telles que le déplacement de la main-d'œuvre et un «brassage» plus important dans les marchés du travail, la perte d'emplois dans les industries de la manufacture et des ressources (souvent situées dans les régions rurales), le besoin de faire passer la majorité des emplois du secteur des services dans les centres urbains, les nouvelles compétences nécessaires pour être embauchable et la perspective d'un taux de chômage structurel plus élevé, surtout parmi les personnes ayant peu d'instruction. Il est donc indispensable que la politique sociale continue à jouer un rôle réactif pour trouver des solutions à ces nouveaux problèmes sociaux.

Toutefois, la politique sociale doit faire beaucoup plus que trouver des réponses aux problèmes engendrés par la restructuration économique. Cette restructuration entraîne tout un ensemble de questions et de situations de transition qui sont essentiellement d'ordre social, politique et organisationnel, et qui ne relèvent pas uniquement du domaine technique et scientifique. Sur les lieux de travail, cela se traduit par des changements dans l'organisation du travail, les relations syndicales-patronales et les rapports des établissements entre eux. Il faudra accorder une importance majeure au développement des ressources humaines, d'où la pertinence des systèmes d'éducation et de formation. Par ailleurs, les rapports entre le monde du travail et le système de sécurité des revenus doit être réexaminé. La politique sociale a donc plusieurs rôles à jouer dans la restructuration économique : un rôle réactif et un rôle de facilitateur.

Finalement, il devient évident que les pressions qui obligent à la restructuration des économies donnent naissance à toute une variété de réactions de la part des entreprises elles-mêmes. Certaines essaient d'éviter les pressions de la concurrence en se réclamant du protectionnisme ou de taux d'échange plus favorables. D'autres essaient de répondre à ces pressions en diminuant leurs coûts, et en particulier les coûts relatifs à la main-d'œuvre, au moyen de pratiques variées, par exemple en refusant d'augmenter le salaire minimum, en essayant de saper les syndicats, en transformant les emplois en emplois à temps partiel, en embauchant de la main-d'œuvre temporaire ou en déménageant leurs activités dans des lieux où la main-d'œuvre et la réglementation sont moins coûteuses. Une troisième approche consiste à augmenter la productivité et la flexibilité de l'ensemble de l'entreprise, en mettant l'accent sur l'innovation, les changements technologiques, la fabrication de produits à valeur ajoutée plus importante et la réorganisation du travail. Selon nous, c'est cette dernière forme d'adaptation qui pourra le mieux répondre au défi de la concurrence tout en permettant de maintenir et même d'améliorer les niveaux de vie. Et de nouveau, il faut répéter que la politique sociale a un grand rôle à jouer dans le débat. Nous sommes d'avis qu'une politique sociale décisive devrait modeler la forme de la restructuration entreprise par les établissements et la direction que celle-ci va prendre, plutôt que d'attendre que cette restructuration soit mise en place et se contenter ensuite de répondre aux problèmes sociaux qui vont en résulter.

Le livre se termine par un débat sur les changements survenus dans le processus de mise en place des politiques sociales, dans le cadre du nouvel environnement économique, et sur les changements dans la politique sociale que l'on peut s'attendre à observer dans les années 90.

# Acknowledgements

The origins of this book, and of my indebtedness to others, go back to the spring of 1988 when National Welfare Grants, Canada Health and Welfare, awarded me a Senior Welfare Research Fellowship for the 1988-89 academic year. The Fellowship permitted me to spend a sabbatical year as a Visiting Scholar in the Program in Science, Technology and Society of the Massachusetts Institute of Technology. I am very grateful to the STS Program, and to its Director, Kenneth Keniston, for the opportunity to spend an intellectually stimulating year in the MIT environment. In particular, I would like to acknowledge the important contributions made by Charles Sabel and Michael Piore to the development of the ideas expressed in this book.

At the conclusion of the sabbatical year, National Welfare Grants required the preparation of a substantive report, and it is this piece of writing that has gradually turned into a book-length manuscript. Melanie Hess in Ottawa has very capably contributed to the enterprise by undertaking some important background research. National Welfare Grants, with the supportive intervention of Evariste Theriault, added to its contribution by providing a publication grant and by supporting a national consultation workshop held at Dalhousie University in May 1990 on the topic of "Technology, Employment and Social Policy." On this occasion, reviews of the draft manuscript by Keith Banting and John Myles were particularly helpful, as were the presentations made by Senator Lorna Marsden and Charles Sabel.

By this time, my colleagues at Dalhousie, Jan Grude and Lars Osberg, and I were engaged in a research project funded by the Social Sciences and Humanities Research Council of Canada and involving a series of case studies of firms in Nova Scotia. Thus

subsequent revisions of the manuscript owe a great deal to the information that has been gathered through this project, and to the rich interdisciplinary exchanges that occur within the research group.

As the book has taken shape, I have been encouraged by the ongoing support of Rod Dobell, then President of the Institute for Research on Public Policy, and by Shirley Seward, then Director of the Institute's Studies in Social Policy Program. Two anonymous reviewers made very useful, constructive, comments about the manuscript. Derek Mann deserves full credit as a very skilled and (equally important) tactful editor. I am also grateful to Ruby Day and Parker Staples from the IRPP's Halifax office for their efficient pre-publication administrative support.

# The Author

**Fred Wien** is the former Director of, and currently a Professor in, the Maritime School of Social Work, Dalhousie University, Halifax, Nova Scotia. Born in Osterode, Germany in 1943, he graduated from Queen's University with an Honours B.A. in Political Studies and Spanish in 1966. Cornell University awarded him an M.S. degree in 1969, and a Ph.D. in 1971, in Development Sociology, Latin American Studies, and Government.

In 1986, the Institute for Research on Public Policy published his *Rebuilding the Economic Base of Indian Communities: The Micmac in Nova Scotia.*

# Introduction

People who are active in the social policy field have recognized for some time that the economic conditions which accompanied and helped to shape the modern welfare state in Canada and the United States, and other advanced industrial countries, have changed significantly in the last two decades. Indications of change have been lower rates of increase in productivity, the stalling of growth in personal incomes, higher rates of unemployment and burgeoning public sector deficits, among other signs of economic distress. These factors have contributed to a reduced capacity and willingness on the part of governments to fund social programs at existing, let alone increased, levels. Many social policy activists who, in the 1960s and the early 1970s, had roundly criticized the inadequacies of existing and proposed programs, spent the 1980s struggling to avoid their being undermined.

For a time it appeared that these problems were temporary; it was anticipated that, in a post-recession, post-OPEC, post-Reaganomics world, conditions would return to normal. It would then be possible to put in place additional pillars of the modern welfare state, particularly in order to address issues that had not previously been adequately dealt with. The unfulfilled agenda is longer in the United States than in Canada, but in both countries there has been no lack of imagination about what could and should be done. Now, almost two decades after the watershed years of the mid-1970s, it is becoming increasingly clear that the economic (and political) context for social policy is not returning to "normal," indeed that the characteristics of the economy and the requirements for social policy are changing substantially.

While many factors are contributing to the new economic order, we believe that the increasingly competitive and global nature of production is among the most important. Firms are also struggling to adapt to changes in the markets for which they produce goods and services. As firms try to adapt to changing product markets and to a more competitive trading environment, they turn increasingly to new forms of technology as part of their response to the situation. Thus the first chapter in this report discusses these three major causal forces shaping the nature of advanced industrial economies such as Canada's, and their interrelationship.

In the transition to the new economy considerable attention is, of course, paid to the technical and scientific challenges of the times — the search for superconductivity, for high-definition television, for the correct balance of policies that will maximize employment yet contain inflation. We are impressed, however, at the number and significance of the issues that are essentially social, political, and organizational in nature. We are also impressed at the rudimentary state of our knowledge, and the application of our knowledge, on how these matters should be addressed. While it is commonplace to say that one should pay attention to the social factors involved with technological change, it has not been so clear just what these social dimensions are, and how they are implicated.

The most straightforward approach is to discuss the impact that technological and related changes are having on a number of social dimensions, particularly the dimension of employment which is our main interest in this document. Clearly new opportunities are being created for some in the labour force, and new sources of disadvantage are being experienced by others. This is the focus of Chapter II. Our discussion is necessarily tentative because research on these matters is still far from being conclusive, and it is also difficult to separate out the particular influence of technological change from other causal factors. Nevertheless, we discuss five areas of change regarding technological change and employment: the number of jobs and the displacement of workers, the impact on skill levels, changes in the distribution of employment earnings, the creation of structural unemployment, and changes in the distribution of jobs according to achieved and ascribed characteristics such as level of education, gender, race and age.

Technological and related changes affect not only the employment of aggregates of individuals but also entail changes in relations among individuals, among social groupings, and in established institutions. That is, a number of social systems are connected to the workplace that also need to change if a firm, and the economy generally, are to adapt successfully to contemporary economic and technological conditions. For example, the way in which work is organized is implicated, as are labour-management relations and relations among firms. Changes are also required in the education/training and work/welfare systems. It is the objective of Chapter III, IV and V to identify and describe some of these broadly social changes, and thereby to set the stage for a discussion of the ample scope for social policy to address them. We use the term "social policy" in a broad sense to encompass not only social welfare policy, but also policy pertaining to the workplace and to education and training.

There is, of course, a complex relationship between how the economy is organized, and the changes it is undergoing, and social policy. In Chapter VI, in keeping with the themes outlined earlier, we focus on two dimensions in particular: social policy as a

response to the social problems created by a changing economy on the one hand, and social policy in terms of its influence on social factors that are complementary to the economy on the other. With regard to the latter, Courchene (1987), among others, has argued that social policy — increasingly in this competitive age — needs to be shaped with a view to assisting Canada to make the transition to, and to be successful in, the new economic era. We maintain that the task is to develop and articulate a new conception of the role of social policy in relation to the economy, one that is not simply reactive and subsidiary to the needs of the economy but rather one that permits the long-standing objectives of the "social sphere" to be realized in new ways, in a new context. Furthermore, social policy can play an assertive role in shaping how economic restructuring develops.

Thus we argue that social policy has an important role to play in the transition to the new economy; to regard it simply as a hindrance to be removed so that the economy can function in an unfettered manner, or just as an afterthought in terms of looking after social problems, is to subscribe to a conception of social policy that is much too limited in the present challenging context.

While we focus on the nexus among technology, employment and social policy, we recognize, of course, that there are other important sources of change acting on social policy. Demographic influences are particularly important as the size of the youth cohort shrinks, the age of the population increases, and family patterns change. Long-run changes in attitudes and values, sometimes articulated and pressed forward by social movements, have also been shown to be important for changes in policy. Thus, from time to time, demographic transitions and other factors enter into our discussion but they are not the main themes of this report.

In conclusion, we note that this report does not contain the results of original data collection. Rather, it is an attempt to review some of the literature and to think through the implications for social policy of the changing economic context, particularly one that is influenced significantly by the continuing development of science and technology. We draw on both the Canadian and U.S. literature, often illustrating similarities and differences between the two countries.

# Chapter I

# The Changing Economic Context

While a wide range of factors contribute to change in social policy, clearly shifts in the economic base of a country are among the most important. However, many of those who write about social policy often make little more than passing reference to this significant causal influence. Discussions of social policy are too often circumscribed within the limits of the "social envelope," where debates are very much influenced by the weight of past policies, their alleged shortcomings, or the identification of gaps in the existing panoply of programs (Johnson, 1987; Skocpol *et al.*, 1988).

In this first chapter, we identify and describe what we think are three of the most important causal forces affecting the economic context for social policy in advanced industrial societies. These are increased international competition, changing markets for goods and services, and the continuing development of science and technology. We will also seek to clarify the interrelationship among these causal factors, which we view as highly interdependent, and to underline the increased importance that technological change will assume as firms respond to the new environment.

In subsequent chapters, we will make the connection between the changing economic base and social policy in two respects: by identifying changes that are taking place in the nature of employment, in particular, then tracing through the resulting implications for social policy, and by delineating how successful economic change in fact depends on the resolution of a number of social issues, and the role of social policy in this connection. We will also discuss how social policy can shape the direction of economic change.

## 1. International Competition

There is no question that the level of competition faced by North American producers of tradeable goods and services has increased significantly in the past two decades, to the point that it has become a major source of concern. Case study and industry reviews in one sector after another reveal the inroads that competitors have made in markets once thought secure. While some domestic policy changes such as deregulation and privatization have also contributed to the new environment, and have affected some service industries in particular, the more significant source of competitive pressures, affecting goods producers especially, has derived from producers in other countries.

The Massachusetts Institute of Technology (MIT) Commission on Industrial Productivity recently reviewed eight major manufacturing industries in the United States which together account for almost a third of value added in U.S. manufacturing. In all but two of the eight (chemicals and commercial aircraft) the share of the market held by U.S. firms has fallen dramatically; each of the six now makes a major contribution to the U.S. current account deficit. Included in the group are not only low-wage industries such as textiles, but also high-tech areas such as microelectronics and long-standing core industries such as autos, steel and machine tools. The American consumer electronics industry has all but disappeared; what American brand names remain are usually placed on products manufactured abroad (Dertouzos, 1989). Canadian case studies also reveal that major industries are similarly facing a more competitive trading environment. Affected industries include autos, steel, forestry, fishing, and food processing, to name a few (Premier's Council, 1988).

More aggregate measures make the same point. The fact that other countries are becoming increasingly proficient at exporting their goods and services is implied by figures that reveal the growing problems that Canada is facing. For example, the country's deficit in the trade of manufactured end products grew from approximately $13 billion in 1983 to $29.7 billion in 1989 (Lush and Rowan, 1990). Canadian products also make up a declining share of world exports, from a peak of 5.9 per cent in 1970 to a low of 3.6 per cent in 1980, recovering to 4.5 per cent by 1986. The U.S. decline has been in the order of 15 per cent to 11 per cent over the same period (*Quarterly Labour Market Productivity Review* [*QLMPR*], Spring 1988). This comes at a time when the proportion of imports and exports to total gross national product (GNP) has grown in importance. In Canada, that figure has increased from 40 to 60 per cent between 1960 and 1986, and the figures are similar for most countries that are members of the Organization for Economic Co-operation and Development (OECD). In the United States, the proportion has more than doubled from 10 to 22 per cent. The Canada-U.S. Free Trade Agreement and the prospect of adding Mexico to the free trade area is likely to increase these proportions within North America.

The competitive problems being faced by North American firms represent a sharp reversal of conditions in the two decades following World War II. With European and Japanese economies destroyed by the war, the United States enjoyed an unrivalled supremacy in world production and trade. The Canadian economy was in some respects distorted by its dependence on the United States but in other respects it was pulled along by the strength of the American economy, benefiting from its technology and the high

level of demand for Canadian raw material and manufactured goods. The basis of American ascendancy can be traced to factors such as the following: the size of the U.S. market, which provided scope for economies of scale; superior technology; the skill and higher education levels of American workers; growing and high levels of per capita income which made discretionary income available to be spent on consumer goods; and U.S. hegemony abroad which contributed to readily available supplies of raw materials, proceeds from foreign investment, and control over international monetary institutions (Dertouzos, 1989; Piore and Sabel, 1984). It was a relative advantage that the United States could not hope to maintain. As the European and Japanese economies were rebuilt after the war, incomes in these countries improved, domestic markets expanded, educational and skill levels rose, and borrowers of technology turned into high quality innovators and manufacturers in their own right.

Over time, North America's emerging competitors also defined their own strategies for competitive success and for high rates of improvement in productivity. Among European countries, the route chosen by Britain differed from that of France and the former West Germany; Sweden's strategy has differed from all of these. In Asia, analysts of Japan's phenomenal development attribute that country's success in part to an active governmental role, for example, in the promotion of research and development, the formation of consortia, the establishment of regional and national applied research institutes, and the strategic use of procurement policy. They also cite an effective approach to generating and managing investment capital, involving a high national savings rate and inter-corporate ownership linkages that often include banks, insurance companies and suppliers on the board of a particular company. This contributes to a longer term perspective on capital investment. An initial emphasis on borrowing technology has been important, but has been replaced by the capacity now to develop and apply made-in-Japan technology. Patterns of interrelationship between large and small firms have contributed to an emphasis on the diffusion of technology to smaller units.

Other countries in Asia have followed Japan's footsteps with equally dramatic success, to the point where some analysts now perceive the emergence of a "late industrialization" model of economic development. This is the point made by Alice Amsden, who describes the South Korean development pattern as beginning with low wages and harsh working conditions, but then moving on to rapidly rising wages as productivity improves. In contrast to Britain, where original innovations were important, and the United States where organized innovation was pursued in the context of companies geared to a national market while government protected infant industries, South Korea borrows technology from abroad and applies and improves it on the shop floor. Heavy investments are made in education, not only in terms of formal schooling but also in training for production workers so that necessary improvements in quality can be made. Worker initiative is encouraged through the use of quality circles (Amsden, 1989).

In contrast to the earlier industrializers, where the development process was largely market driven, the South Korean pattern relies on the very strong intervention of the government in the economy. This includes the use of subsidies, protection, control of banking, licensing the entry of firms to specific sectors, setting export targets and providing supports to help firms achieve them. An additional element is the substantial investment that is being made in research and development, expenditures for which have

risen from 0.39 per cent of GNP in 1970, to 2 per cent in 1986 and are projected to rise to 5 per cent by the year 2000. This compares with a 1984 U.S. rate of 2.7 per cent and a Canadian rate of 1.4 per cent (Amsden, 1989).

Countries such as South Korea, Taiwan, Hong Kong and Singapore are thus pursuing an export-led development pattern that begins with labour-intensive, low-technology goods such as textiles and then moves into mass-produced consumer durables. Clearly they are making an impact on world trading patterns. A report prepared by the Ontario Ministry of Skills Development (MSD) refers to an explosion of exports from the four "Asian Tigers," referring to the fact that sales from South Korea, Taiwan, Singapore and Hong Kong into the United States and Canada are increasing almost as fast as those from Europe and Japan are being displaced. The report goes on to say that the four countries together are currently a larger exporter to the United States than Canada and, if one excludes auto exports, they have overtaken Japan in terms of exports to the United States. Aggregate data, supplemented by case study information, suggests that in many important industries (such as textiles, automobiles, and machine tools) the low-cost, standard mass-produced portion of the market is increasingly being taken over by products from the newly industrializing countries (MSD, 1988).

In the past, of course, Canada has relied largely on the richness of its natural resources combined with strong, albeit fluctuating, demand for them abroad, as the basis of its comparative advantage. As the 1985 Royal Commission on the Economic Union and Development Prospects for Canada (RCEUDP) — the Macdonald commission — pointed out, however, we can no longer do so to the same extent in the future:

> If we Canadians have sometimes had doubts about the role that our resource endowments have given us, we have nonetheless retained a confidence that it is indeed our role. Even now, we ourselves and the world at large perceive Canada as a country whose economy is based on an abundance of natural resources. Yet, however great the contribution of those resources to Canada's social and economic development in the past, can we safely assume that they will make a dominant contribution to our future? .... While our resource industries are still important — indeed, often vital — and will remain so to many regions and localities, we are becoming relatively less dependent on resources as a nation .... Although our natural resources are still abundant by world standards, they are by no means as boundless as perhaps they once seemed to be. In some resource sectors, such as forestry, we are approaching — in fact, some would say have passed — the practical limits of growth .... In other sectors, such as mining, we find that changing technologies and slower growth have reduced world demand for some of our key minerals. Foreign competition, especially from developing countries, pose another and a growing threat to our traditional role as a leading exporter of natural resources.
>
> The lesson is that Canadians can no longer take natural resources for granted. We can no longer expect them to provide either the leading edge for future economic growth or an automatic solution to our troubles in times of economic difficulty (RCEUDP, 1985).

Thus it is not only the quantity of trade that has shifted, but also its nature and the major participants. The economist Robert Solow has pointed out that the old rules no longer seem to apply, where a country's "comparative advantage" in raw materials, and the availability of land and labour costs, largely determined its place in the world trading system. Increasingly, advanced economies such as those of Canada and the United States

operate in an international environment where they must seek comparative advantage through the development and utilization of their human resources. This sentiment is reflected in the advice given to the premier of Ontario:

> The path to economic success is changing for Canadians. We cannot depend on our resources or our proximity to the United States for our continued prosperity. Nor should we rely on a declining Canadian dollar to keep us competitive in world markets. We have attained our present wealth by mastering a set of economic rules that are becoming steadily less relevant for our circumstances. In the future, our prosperity will depend increasingly upon our ability to sustain a sufficiently large base of companies competing in world markets, not on the basis of lower labour or raw materials costs, but rather through technical innovation, skilled labour, adept marketing, and high productivity. Changes in the world economic system have forced this new reality upon us. As a small nation which must trade to survive, we cannot escape its logic (Premier's Council, 1988).

Faced with such competition, there is widespread agreement that advanced industrial economies such as those of Canada and the United States need to "trade up." That is, if less developed countries have an insurmountable edge in labour-intensive production because of low-cost labour, while the newly industrializing countries (NICs) specialize in both labour- and capital-intensive activities because they have already built up some economic infrastructure, then countries such as Canada and the United States need to specialize in both capital- and knowledge-intensive production if they are to maintain and improve living standards. In this scenario, comparative advantage is based on factors such as investment in research and development, high productivity, and product quality or product uniqueness (Premier's Council, 1988). This does not necessarily mean abandoning lower wage, labour-intensive industries such as textiles, but it does mean reorganizing them in a more capital- and technology-intensive manner and gearing their products to markets other than those for standardized, low-cost goods. That such restructuring can be done successfully is illustrated by the performance of the textile industry in such higher-wage countries as Germany, Italy and Japan (Dertouzos, 1989).

In both Canada and the United States, however, economic performance has been slipping in the last two decades. Both countries are still at or near the top of the ladder in terms of the absolute level of output per worker, but the rate of productivity growth has declined both in relation to what it was in earlier decades and in relation to the rate of growth experienced by countries such as France, the former West Germany, Italy, Japan, and the United Kingdom. More specifically, labour productivity growth in the United States, which had averaged 2.2 per cent annually in the business sector in the period 1960-1973, declined to zero in the period 1973-1979 and has rebounded to only 0.8 per cent in the 1979-1988 period. For Canada, the 1960-1973 figure is 2.0 per cent, 1973-1979 is 1.5 per cent and 1979-1987 is 1.5 per cent. For the latter period, the U.S. and Canadian percentages are the lowest, and third lowest, respectively, among 20 OECD countries (*QLMPR*, Winter/Spring 1991).

What accounts for the declines in the rate of productivity growth? Many economists look first to macroeconomic (economy-wide) factors. They place particular emphasis on a low rate of capital investment, which has been restricted, they argue, by low levels of personal savings, large government deficits, high interest rates and low profit margins. This explanation works better for the United States than it does for Canada, where the

level of savings, investment and renewal of capital stock has not declined substantially since the early 1970s. In both countries, nevertheless, regression analyses seeking to explain changes in the rate of productivity growth end up with large unexplained residuals, after factors such as the quality of labour, capital accumulation, and growth in the proportion of women and youth in the labour force have been accounted for (Baily and Chakrabarti, 1988; RCEUDP, 1985). Their analyses, and those of others who have resorted to more micro-level studies of particular firms and industries, lead to the conclusion that macro-level explanations are insufficient to explain what is occurring. They suggest that the problem may lie in failures of innovation, or the application of innovations, in the form of new technology. They argue, further, that existing measures of productivity are inadequate in that they fail to take account of more important aspects of productive performance — that is, not only the quantity and value of goods per employee, but also the quality of the product, its reliability and precision, the speed with which customer demand can be met, the flexibility of production in the face of uncertain markets, the quality of customer service, and so forth (Dertouzos, 1989).

In order to understand the significance of these kinds of criteria, it is necessary to move on to a discussion of the changing nature of product markets, to which we now turn. We will argue that competitors of North American industry have improved their relative position not only because of the post-World War II catch-up phenomenon and innovative competitive strategies, but also because they have been more successful in gearing their production to the changing character of contemporary markets.

## 2. Changes in Product Markets

In their influential book, *The Second Industrial Divide*, Piore and Sabel (1984) make the argument that, for the past century, the prevailing paradigm in the United States has been one of mass production. As a national market came into being in the closing decades of the nineteenth century and the early years of the twentieth, firms became organized to produce for a large, expanding, and relatively stable (except for war and depression) domestic market. Under these conditions, firms were encouraged to turn out standard goods on a mass production basis, thereby achieving economies of scale and using technology that was rather unchanging, i.e., dedicated to turning out the same piece over long production runs. The organization of work was also rather inflexible, characterized by an extensive division of labour on the assembly line, the separation of design (considered to be the responsibility of managers and engineers) from execution (the responsibility of production workers), detailed job definitions, and equally detailed collective agreements outlining the rights, obligations and ways of proceeding of both labour and management.

Various institutional mechanisms helped to stabilize the market and facilitated the coordination of production with demand. These included the emergence of the modern corporation, a system of national wage determination, Keynesian macroeconomic policy, and social programs such as unemployment insurance which stabilized purchasing power during recessions.

Largely because of its smaller domestic market, the Canadian economy has been somewhat less committed to the mass production model than has been the case in the United States; at least Canadian firms have been smaller in size and have not achieved the economies of scale of their American counterparts, unless an external market provided such an opportunity (as it did in the case of farm equipment, for example). Nevertheless, the basic principles of the mass production model have been applied in much of the core manufacturing and resource industries of the country. Marchak (1987), for example, gives this description of the pulp and paper portion of British Columbia's forestry industry, and spells out the implications of the "Fordist" model for the nature of employment opportunities it characteristically provides:

> From the 1950s to the 1970s pulpmills produced pulp and newsprint for a steady market with standardized prices and long-term contracts with buyers. The ten new mills ... constructed during that period were automated, eliminating many floor-level jobs for relatively unskilled workers. Many workers in automated mills must be literate in order to read computer data; they are recruited from schools and universities and trained within the plants. A second group of workers are tradesmen who service the expensive machinery; they were in short supply throughout this period, and pulpmills competed for them with other industries. The machinery is expensive, paying for itself only if operating continuously; downtime caused by inexperienced workers or inadequate supplies of tradesmen would be costly. Consequently, at a time when markets were strong, managements needed a steady and committed work force. They sought this through payment of high wages, fringe benefits, guaranteed housing in company towns, promotion policies, and in-plant training programs.

It appears, however, that since the mid-1970s product markets have no longer been as stable, predictable, expanding and receptive of mass-produced goods as they were in earlier decades. As a result some, if not all, North American firms have had to adjust to a different economic environment and seem to have had more difficulty in doing so, perhaps in part because of their previous commitment to mass production, than firms in Europe and Japan.

There are six aspects of changing product markets that deserve mention here.

*1. Uncertainty.* In comparison with two to three decades ago, production for today's markets is considerably more uncertain for individual firms. This is not to deny that the 1950s and 1960s did not also have their share of turmoil, such as the Korean War, international migrations and political protests, but several new, destabilizing factors have become important in recent years. These include the growth of international competition discussed above, which leaves firms much less secure about what they can sell, who they can sell to, at what price and for how long. Another contributing factor is the rapid pace of technological change which can quickly leave a firm's products outdistanced by the competition, as was clearly exemplified by large portions of the Canadian and American steel industries in the past 10 to 15 years (Hoerr, 1988).

The fact that a higher proportion of production is geared to international markets, with all the attendant uncertainties of tariffs, and involves the coordination of production and sales in different locations abroad, also contributes to uncertainty. Floating exchange rates, which replaced the fixed standards achieved by the Bretton Woods agreement of 1944, have been an important source of unpredictability. They make it difficult, for

example, for firms to decide whether to invest in the building of plant and equipment abroad or to make the commitment to expand output at home. A final source of uncertainty has been the supply shocks of the 1970s, especially with respect to oil, and the ensuing inflationary spiral.

*2. Saturation.* The market for standard, mass-produced goods is not only uncertain but also may have become saturated in North America and Western Europe. Piore and Sabel (1984) suggest that by the late 1960s in the United States, "domestic consumption of the goods that had led the post-war expansion had begun to reach its limit" as indicated by the fact that almost all homes had all the automobiles, television sets, indoor plumbing and toasters that they could reasonably consume. With the market for such goods no longer growing as quickly, yet with more countries seeking to jump on the mass production bandwagon, the stage was set for growing international competition as producers sought to expand markets for their goods by looking abroad. The Third World looked tempting to the automobile manufacturers who, for a time, sought to produce a world car, and now Eastern Europe beckons as a potential market for mass produced goods. However, for the mass production model of development to continue to succeed, it is not only a matter of finding the markets abroad but also establishing the institutional mechanisms that would stabilize such markets and facilitate the coordination of production with demand. As noted above, such mechanisms were developed in earlier decades for the domestic economy; whether equivalent mechanisms can be developed at the international level is highly debatable. Thurow (1988), for example, argues that it is not possible on the world level in the foreseeable future, particularly in a multi-polar world where no one country can impose its hegemony on the whole system. However, within the emerging regional trading blocs of Europe, Asia, and the Americas (where the former West Germany, Japan and the United States respectively dominate) it may be possible to put the necessary stabilizing and regulating mechanisms in place and thereby give a new lease on life to those firms that are geared to a mass production model.

Of course, not everyone accepts the saturation/stagnation thesis. Supply-side economists hold to the view that the production of goods inherently creates demand by putting money in the hands of workers who are then able to buy the new products (Schlefer, 1989). However, while there may not be consensus on the saturation hypothesis, there is widespread agreement that the market demand for a wide range of goods produced in North America will grow more slowly in the future. Excess capacity in the face of stiff competition in automobiles and steel, for example, is frequently noted. And in Canada's natural resource industries, market expansion for agricultural, forestry and mineral production is also expected to be well below the level seen in earlier decades (RCEUDP, 1985).

*3. Fragmentation.* Observers are also noting the increased fragmentation of markets, meaning by this that mass markets for standardized products have given way to more differentiated segments of demand. One need only regard the diversity of automobile models and manufacturers now serving the North American market to illustrate this point. Case studies of the auto industry reveal that the number of different structural underbodies of cars on sale in the U.S. market increased from 24 in 1955 to 91 in 1986; sales per platform dropped from 298,000 to 125,000 units over the same period of time,

signifying much shorter production runs. Japanese producers are particularly inclined in this direction (they doubled the number of platforms they produced between 1977 and 1986) and their North American plants are continuing in this more flexible production format (Womack, 1989). The Honda plant in Alliston, Ont., for example, is geared to runs of 70,000 to 100,000 cars. Other examples can be found in steel, textiles, machine tools, consumer electronics, and so forth. As a result, a much greater variety of products is available, each serving a more limited segment of demand.

Just why markets have become more diversified is not entirely clear. Trends discussed above, such as the saturation of markets for many goods and the increase in international competition are obviously important. Some hold to the notion that the growing affluence of advanced industrial societies is part of the explanation. Here it is assumed that there is a hierarchy of needs and wants, so that at lower levels of income, basic standard goods are all that is required or affordable, while higher incomes permit the satisfaction of more diverse tastes. Others hold to the view that a diversity of tastes reflects cultural differentiation within a given society. A final possibility, supported by case study examples, is that North American producers who are threatened by low-cost, mass-produced goods from abroad, are deliberately shaping the market in the direction of higher quality, better designed goods intended to appeal to more discrete markets. This appears to be the case, for example, in the shift of Japanese automobile producers toward more luxury products, and in the transition made by European and North American textile producers to more designed, high quality, clothing. In the process, consumers are urged to downplay considerations of cost in exchange for features such as quality, durability, style, customization, and so forth. In this way, producers shape markets as well as reacting to them (Piore and Sabel, 1984).

*4. Shorter product cycles.* Not only are markets becoming more fragmented, they are also becoming more time-limited in terms of the life cycle of individual products. For example, Kodak reports that no camera today lasts more than six months before it is redesigned and new features are added; in the 1960s, a camera would not likely be changed for at least three or four years (Kazis, 1989). An important implication is that time becomes a more critical variable in production. With reduced product lifetimes and with shorter lead times *vis-à-vis* the competition, it becomes important to reduce the time required to design, produce, and market a given product. If a new model VCR machine, for example, has a two-year lifetime, a six-month delay in getting it to market proves to be very costly (Rudolph, 1989). Reducing development/design time is particularly important because these costs rise relative to other production costs in an era of more complex products and technologies, where the emphasis is on a diversity of products and short production runs.

An implication of the new market environment is the increased risk entailed by it, and therefore the need for firms to develop strategies to reduce the risk of failure. Under conditions of intense competition, market fragmentation, and short product life cycles, firms are not likely to make long-term investments in product-specific machinery since the market for a product may well disappear before the returns are sufficient to pay off the capital investment. In order to produce efficiently for these kinds of markets, firms need to develop the capacity to produce in small runs and to shift flexibly from one model or product to another. This has important implications for the kind of technology

employed, involving a choice between the technology of mass production (that is, inflexible, dedicated capital equipment geared to performing the same operation over long production runs) and the technology of flexible production (that is, flexible, general purpose capital equipment geared to short production runs and permitting easy shifts from one product line to another).

The demands of flexible production, greater time pressures, and the need to reduce risk also have important implications for the way in which work is organized within and among firms, for the nature of labour-management relations, and for the skills (and hence the education and training) of the workforce. We will return to these matters in subsequent chapters.

*5. Quality, complexity, and customer attention.* One of the means by which foreign competitors have obtained a larger foothold in the North American market has been through attention to producing high quality, reliable products. In the automobile industry, for example, the Japanese approach involves not only a difference in emphasis, but also a different approach to achieving quality goals. Perfect, first-time quality is a central goal and is achieved by means such as building quality considerations into the design stage, insisting on the delivery of high quality component supplies, and tracing through the source and cause of defects so that they can be corrected. This contrasts with an American pattern of tolerating a specific level of defects, throwing away defective parts rather than learning from them, and relying on random quality checks at the end of the production process rather than stopping the assembly line when defects are noticed. It is not surprising, therefore, that defects per 1,000 vehicles average 52 in Japan, 56 in Japanese plants in the United States, and 90 in conventional U.S. plants (Roos, 1989; Womack, 1989). In short, by driving up quality standards and penetrating markets overseas, the Japanese, Germans and others are exerting considerable pressure on North American producers also to raise their standards.

Related to the push for quality has been the greater attention paid to meeting the needs of customers and feeding customer suggestions for improvement back to the production process. In the machine tool industry, for example, Japanese manufacturers first gained a significant foothold in the United States because of the practice of American companies to try to even out fluctuations in demand caused by the business cycle. They would do this by backlogging orders by as much as 1½ years in good times, then working through the outstanding orders during the downcycle. "While this strategy served the builders, if not their customers, it clearly left them vulnerable, particularly in general purpose market segments, once low-cost, high quality imports were available and could be delivered quickly" (March, 1989). This allowed the Japanese to get their foot in the door; with lower prices, improving quality, fast service and often generous financing, they were able to consolidate their position over time. As a result, imports as a per cent of U.S. consumption in this industry rose from 4 per cent in 1964 to 50 per cent by 1986.

In a number of industries, too, it is not only a matter of customer service but also of tailoring products to meet customer needs more exactly. This is the tendency in textiles, for example, where it is not too far-fetched to envisage a situation where customized clothing can be produced by flexible technology to suit the varying shapes of a large

number of customers, in contrast to current practice where customization results from hand production for a few. The Japanese, for example, are undertaking research and development on automated machines which sew entire pieces of clothing on to a dummy.

Case study and other sources also reveal a trend toward the increasing complexity of products. This is the case in at least three respects. First, the technology that goes into many contemporary products is more complex and multi-dimensional than its predecessors. A good example is the instrumentation used in the chemical industry:

> Not too many years ago, these products were based on the ability to simply carry out a measurement, i.e., determine the concentration of a substance in a biological or chemical sample. Today, products in this category must also offer the capability to prepare and handle the sample, manage the reagents, and process, present, and archive the data. The product has become interdisciplinary in response to customer demands for a smarter, more automated product. While it used to be possible for companies pursuing this product category to maintain the full range of skills needed to compete effectively, today they are faced with determining which technologies are appropriate and strategic for in-house development and which ones should be acquired elsewhere. For many companies, it is simply no longer possible to do it all themselves (Rudolph, 1989).

Secondly, there is a trend in some industries toward building whole solutions and integrated systems, rather than simply being concerned with an isolated piece of equipment. The machine tool industry is a good example of a sector in which customer interests have moved beyond having a stand-alone machine supplied; rather, they look for a total system with interface technologies linking equipment within the firm and also connecting the firm to suppliers and perhaps customers as well. Finally, it is worth noting that in many industries more rigorous performance standards are now being required. In machine tools, to stay with this example, this means ultra precision machining using high-speed equipment, perhaps even non-contact cutting equipment using lasers to achieve submicron precision (March, 1989).

All of these factors — complexity, quality, customer responsiveness — have implications for how production is organized, imposing new requirements on management and workers alike.

*6. Globalization.* Helliwell (1988) defines globalization as "the process whereby the scope and consequences of human actions are becoming ever less limited by regional and national boundaries." For Canada, the process referred to is reflected in figures such as the following. Between 1981 and 1987, the ratio of exports of manufactured goods to all shipments by Canadian manufacturers rose from 29.9 per cent to 35.9 per cent. The share of the Canadian market taken by imports has risen from 31.8 per cent to 37.0 per cent over the same period (*QLMPR*, Winter 1988). A number of factors seem to contribute to a greater global trading pattern. Reduced tariff barriers through the General Agreement on Tariffs and Trade (GATT) are part of the explanation, as are developments in communication and transport technology. Increases in education and income levels abroad also contribute to demand overseas. As markets become more fragmented, some firms look abroad for exports in the face of saturated demand at home, others to balance out the business cycle or to gain sufficient volume within a market niche. Sourcing of components or entire products from abroad also increased in the 1970s and early 1980s, with

some firms looking for suppliers of components they could not produce themselves, others for low-wage labour or escape from environmental, labour or other forms of regulation.

From the above discussion of changing markets, the implication can be drawn that the parameters for successful production are changing. While many firms continue to follow a mass production strategy, constantly seeking to penetrate new markets to achieve economies of scale and substituting automated technology in an effort to reduce labour costs, other firms are seeking to produce efficiently at smaller volumes; enhance product quality and move to more specialized markets; make use of new flexible technologies to shift from one product to another more quickly; pay more attention to meeting customer needs; reduce the time required to design, produce and deliver goods and services; and support continuous innovation in order to develop new and improved products.

Measures to assess comparative performance across countries on dimensions such as these are conspicuously absent. It is a theme of the MIT report that more informative and helpful productivity measures should be developed, to go beyond current measures such as output per worker or multifactor productivity.

In the absence of more comprehensive and informative measures, one is forced to rely on case study and survey data which do show significant weaknesses in performance in North America, compared to the leading competitors abroad. For Canada, the Macdonald commission cites a very low comparative ranking on dimensions such as product quality, design and styling, product safety, on-time delivery, after-sales service, innovation in production techniques and in product lines, and in industrial flexibility (RCEUDP, 1985). Other sources add to the list of shortcomings — failures to adapt to changing market conditions, problems of skill training and illiteracy, outmoded labour-management relations and so forth (Sharpe, 1988; MSD, 1988; Premier's Council, 1988).

Indeed, while the *World Competitiveness Report* ranks Canada highly in overall competitiveness (5th out of 23 NICs and OECD countries), the high ranking is beginning to slip and is based on criteria such as natural resource endowment and investment in human resources. Canada was found in the bottom half of the rankings on criteria such as industrial efficiency (e.g., willingness of the labour force to accept labour saving technology), international orientation and future orientation. With regard to the latter, the *Quarterly Labour Market Productivity Review* summarizes the low Canadian ranking as follows:

> The explanation for our very poor performance in future orientation, defined as the effort countries make to prepare for the challenges of an increasingly technological world, are the limited extent to which Canadian firms take a long-term view, low economic flexibility, weak investment intentions, low research and development spending, and the low number and growth of patents granted to residents (*QLMPR*, Fall 1990).

The reasons for weak American performance are perhaps best analyzed by the MIT productivity commission, which goes beyond macroeconomic considerations to discuss factors such as the continuing commitment to outdated mass production strategies (and all this entails), the parochialism of U.S. producers who have geared their production in

the past to a large and expanding domestic market, short-time horizons, neglect of human resources, failures of cooperation (within and among firms, between labour and management, and with government), and shortcomings in the research and development process (Dertouzos, 1989).

A significant difference between the United States and Canada, however, is the relatively smaller size of Canadian plants, which are often below scale for optimum efficiency. Thus, while in the United States the concern is with the inflexibility of large mass production units, in Canada there is more of a preoccupation in some industries to achieve larger scale, especially now when the free trade agreement holds out the prospect of access to wider North American markets. Achieving sufficient scale to be able to afford the investment in new technologies required to compete on a world scale is also a consideration in some industries such as pulp and paper and telecommunications. Balanced against this is the view of some observers that smaller Canadian firms will be at less of a disadvantage than they have been, in a world of shorter production runs geared to meeting the needs of more specialized markets (Côté, 1988; MSD, 1988; MacMillan, 1988).

## 3. Science and Technology

Any review of the competitive position of North American industries leads to the inescapable conclusion that technological change is a very significant factor in determining the economic health of industries. Economists generally accept that technological change is the most important source of growth in modern industrial economies, although they also recognize the significance of other elements such as improvements in human resources; indeed, there is a complex interplay between these two factors, a matter to which we return below.

The importance of improved capacity in science and technology is underlined by numerous reports and commissions. The following, from the report of the industry committee of Canada's National Advisory Board on Science and Technology (NABST), is typical:

> The NABST Industry Committee recognizes the urgency of advancing the capability of Canadian industry to develop and apply science and technology.... Industry initiatives in science and new technologies in other countries have seriously eroded the capacity of established industries to support economic growth in Canada. Canada must find ways to develop and apply new technology to build new industries, as well as to improve productivity and expand the markets of its established industries. Mobilizing a national will to strive for a more competitive international position in science and technology is critical (NABST, 1988).

While there is general agreement that the new technologies are contributing to widespread changes in the production, consumption and distribution of goods and services, it is less clear whether such an impact is more significant than earlier waves of technological change. Some argue, for example, that the rate of innovation, as measured roughly by the number of patents filed, has not increased markedly in the last two

decades, and that it still takes 10-14 years for inventions to become widely diffused (Cyert and Mowery, 1987). There are several reasons for believing, however, that the current wave of technological change is different. In the first place, new technological developments are now closely linked to advances in science. One might think that this has always been the case, but any history of major technological discoveries made before World War II quickly reveals the important role of individual tinkerers whose discoveries, while brilliant, were made far removed from the influence of the scientific laboratory. While the first sustained contributions of science to technology can be traced back to the closing decades of the last century (for example, in the role of chemistry in influencing chemical manufacturing), World War II gave a major impetus to the linkage of the two dimensions as a result of applied scientific projects such as that leading to the development of the atomic bomb. There has been an increasingly close, although not simple, relation between science and technology in the postwar period.

Secondly, not all would agree that the rate of technological change and diffusion has remained static. There has been a remarkably rapid diffusion of some of the new technologies, for example computerized technology. A survey of 947 Canadian establishments in 1985 revealed that fully three quarters of the sample introduced some form of computer-based technology in the period 1980-1985. While much of this took the form of office technology such as computers used for word processing, plans for the period 1986-1990 included a significant increase in process automation in the manufacturing sector (Betcherman and McMullen, 1986). Thirdly, as the same survey also reveals, technological change is affecting all sectors of the economy, from primary industries through manufacturing to utilities and health/social services. It is not accurate to limit the discussion to a high-tech sector. Finally, the stakes in the adoption of new technology have increased because of the growth in international competition referred to above, and the investments being made by other countries in science and technology as a central element in their competitive strategy. We will return to a discussion of contextual factors such as these below.

## *A Description of the New Technologies*

A number of recent reports go into some detail about the new technologies that are emerging and this material need not be reproduced here in detail (Cyert and Mowery, 1987; Science Council, 1986; Ontario Task Force on Employment and New Technology, 1985). However, four groupings of the new technology seem particularly important in influencing the nature of employment, and thus merit at least a brief description.

*Information technologies.* Here, the reference is to technologies that store, retrieve, analyze or transmit information. The hardware involved includes computers and telecommunications equipment, as well as the microelectronic components on which they rely. This technology is clearly very important both in manufacturing and services, affecting the content and organization of work and the possibilities for decentralizing employment. As information becomes an increasingly important input in production, it

often reduces the amount of labour and other inputs required per unit of output. Information is also becoming an increasingly valuable commodity in its own right. One recent study estimates that a majority of the Canadian labour force is now engaged in occupations whose major function is the production, distribution and analysis of information (Osberg, 1989).

*Computer-aided manufacturing technologies.* Overlapping with the first category are the technologies used in the manufacturing process, such as robotics, computer-aided design and manufacturing (CAD/CAM), computer numerically controlled machine tools, automated materials handling, and automated inspection and quality control. These technologies, the use of which is now spreading rapidly in manufacturing, are expected to affect both the quantity of work available as well as skill levels. Also on the horizon is the linking of many of the individual components listed above through a central computer to form computer-integrated manufacturing facilities (Newton, 1988).

*Advanced Materials.* Scientific advances have led to the development of a number of new materials such as ceramics (including high temperature, superconductive materials), non-metallic composites and polymers. The relevance of these discoveries for employment has largely to do with their disruptive effects on the markets for more traditional materials. For example, the demand for steel in autos has declined in part because plastics, aluminum, fibreglass, and ceramics are being used as substitutes. Forestry producers face a similar problem (Premier's Council, 1988). The new materials also contribute to the diversity of products in the marketplace, and to the fragmentation of the market for individual products. Not long ago, for example, tennis rackets were made only of wood; now, a host of different materials are available — not only aluminum but graphite, kevlar, boron, and twaron to name a few. Since many of the new materials are more durable and effective, they also affect occupations by reducing the amount of work available and shifting it to other areas. A good example of this is the shift in dentistry from cavity filling, where fluorides and new materials have had a beneficial impact, to cosmetic dentistry.

*Biotechnology.* These are technologies that use living organisms to modify plants or animals and develop micro-organisms for specific purposes (Cyert and Mowery, 1987). Developments in this field are more recent and employment effects are expected to be more restricted, involving shifts within technical and professional occupations in industries such as pharmaceuticals, chemistry, biology, agriculture, and environmental protection.

*Other.* Areas in addition to the above where there are also new technological developments of some significance include laser technology (laser imaging, laser cutting, optical data storage, medical applications); space technology (satellites, aerospace equipment); energy technology (solar, power canals, ocean thermal energy conversion); and other ocean technology such as that used for deep sea mining.

## *Contextual Factors*

Clearly science and technology has a momentum of its own — it has established researchers, laboratories, training and socialization mechanisms, funding councils and so forth. All of these will continue to contribute to the generation of innovations that will be incorporated in the form of new or improved technologies.

However, we have discussed the changing context of growing international competition and changing markets first in this report because it is contextual factors such as these that have a significant bearing on the pressure experienced by firms to invest in new technology as a key ingredient in increasing productivity and competitiveness. They also affect the nature of the technology that is adopted. In this connection, it is interesting to note the reasons given by Canadian firms in a survey for the adoption of new computer-based technologies. The most frequent response by far (involving two thirds of all innovation situations) was the desire to increase productivity. This was followed by the desire to reduce labour costs (48 per cent), improve product quality (39 per cent), and increase production control (28 per cent) (Betcherman and McMullen, 1986). All of these reasons can be interpreted from a productivity/competition framework, although there is room as well for the idea that technology is adopted in part as a result of the continuing struggle between labour and management for control of the work process and its proceeds.

With regard to the nature of technologies likely to be adopted, again one can take a technological determinist position which, simply put, is that new technologies are being generated and it is the characteristics of the technology that in some respects are irresistible, leading to their adoption. A competing view, which we think is more consistent with the history of science and technology, is that new technologies are continuously being generated and that it is the economic and political context that determines which are developed further and adopted. This is the view taken in *The Second Industrial Divide*:

> Industrial technology does not grow out of a self-contained logic of scientific or technical necessity: which technologies develop and which languish depends crucially on the structure of the markets for the technologies' products; and the structure of the markets depends on such fundamentally political circumstances as rights to property and the distribution of wealth. Machines are as much the mirror as the motor of social development.
>
> The brief moments when the path of technological development itself is at issue we call industrial divides. At such moments, social conflicts of the most apparently unrelated kinds determine the direction of technological development for the following decades. Although industrialists, workers, politicians, and intellectuals may be only dimly aware that they face technological choices, the actions that they take shape economic institutions for long into the future (Piore and Sabel, 1984).

We have argued so far that contextual factors are important in influencing the degree of technological change and in the nature of the technologies chosen. It has also become increasingly clear that contextual factors (especially social considerations) surrounding the introduction and use of technology are very important in influencing its effectiveness and impact. For example, it has long been recognized that advance notice and consultation with employees is a significant consideration in how smoothly new technology can be

introduced and in how receptive employees are to making it work (Goodman and Griffith, 1989). It is now becoming more clear that the introduction of the current wave of technologies, if they are to have the productivity-enhancing results that are intended, need to be accompanied by a host of organizational changes as well — in the way work is organized, the skill levels and training of workers, labour-management relations and so forth. We will describe such changes in later chapters; suffice it to say here that, while it appears to be possible to introduce new technology into a workplace without making changes in the social and organizational context, it is very difficult to derive maximum benefit without taking a wider perspective on what needs to be changed. Evidence for this statement comes from a number of recent and continuing case studies of technological change in particular companies (McKersie and Walton, 1988; Kelley, 1986; Kelley and Brooks, 1988).

Some of these studies compare productivity increases in companies which introduced only new technology, as compared to those that also undertook organizational and other social changes. The best known of these is the work done on the North American automobile industry (Womack, 1989). Some plants, such as the General Motors operations at Wilmington, Del., and Linden, N.J., have taken the "high-tech leap" by investing heavily in robots and automated guided vehicles, with disappointing results. Others have balanced technological and organizational innovation. A recent review concludes as follows:

> An interesting result is the wide range of productivity and quality in the North American industry. Investigation on a plant-by-plant basis confirms that the North American industry is really two industries, a highly productive, high quality industry led by the new Japanese transplants but including a number of American-owned plants as well and a much lower productivity, lower quality industry consisting of American-owned plants that have not yet embraced best practice in assembly operations.
>
> What is "best practice" in assembly plant operations? Surprisingly, it does not necessarily involve the latest technology nor new bricks and mortar. The GM-Toyota NUMMI facility (in California), for example, is not particularly "high tech" and uses a 25-year-old building, yet it is one of the most productive and highest quality plants in North America (and, it is important to add, in the world). To take another case, a 70-year-old plant of an American company with practically no "high tech" except a few dozen welding robots was found in the IMVP survey to be equivalent to the transplants in productivity. Finally, the highest technology plant in the IMVP North American survey was found to lag the North American average in productivity.
>
> The IMVP survey strongly suggests that the keys to high productivity and high quality in the assembly plant are what we have earlier labelled "human resources" and "production management" policies. In particular, the survey found that the high quality, high productivity North American plants were very similar to the Japanese plants in their organization of work and management's attitude toward the work force (Womack, 1989).

A similar result is reported by a comparison of Japanese and American room air conditioning manufacturers. Here, products and production technology were roughly similar, but large differences in product quality and labour productivity were encountered. These outcomes could be traced directly to work organization and managerial practices and priorities (Brooks, 1985). On the basis of this and other case study material,

Brooks concludes therefore that technology *per se* is not the sole, or even principal, determinant of its societal impact:

> Rather, it acts through many intermediate causes such as management mind sets, social habits, institutional settings and social support systems derived from the past. There is usually more than one way of organizing work around a given production technology, and a given choice may be governed more by history and social surroundings than by the characteristics of the technology. This is almost certainly more true of modern information technologies, and of programmable automation systems based on them, than it was of the manufacturing technologies of the past. Yet taking full advantage of this flexibility and plasticity of the new technologies may be severely inhibited by inherited social and managerial habits. Technology and social organization evolve together, with causality running both ways between them, not just from technology to society (Brooks, 1986).

To summarize, we do not regard technology as being narrowly deterministic in the sense that, if a particular technology is introduced, it will have an automatic and predictable impact on employment. Rather, the new technology makes new arrangements possible, such as flexible production or the decentralization of employment, just as the inventions of an earlier era such as telephones and elevators contributed to the feasibility of high-rise buildings and urban concentration. But how the new technology is used, and whether it will be used to maximum effect, depends on social, organizational and political factors.

## *Comparative Performance*

We have argued in earlier portions of this report that the importance of science and technology as an influence on employment, and hence ultimately on social policy, is likely to increase. This is the case not only because of the contextual factors mentioned earlier but also because North American performance in science and technology has been surprisingly weak in comparison with Japan and many of the OECD countries. In both Canada and the United States, analysis is going beyond macro level indicators to more perceptive, telling analyses of gaps and weaknesses at the plant or industry level.

The comparative position of Canada in science and technology can be readily established by resorting to aggregate data which have been featured in recent reports on science and technology (Canadian Institute of Advanced Research [CIAR], 1988; NABST, 1988). While Canada has some pockets of strength — the performance of government laboratories come to mind, the granting of advanced degrees in natural sciences and engineering, particular areas of technological expertise such as telecommunications — on almost all relevant measures Canada ranks the lowest or second lowest in comparison with other advanced industrial countries. The National Advisory Board on Science and Technology report (1988) concludes that "by any measure Canada's science and technology performance is below the level required to sustain living standards at the level of the leading industrial countries." The problem areas are the following:

- a low level of spending on science and technology by both industry and government, including spending on university-based R&D.

- as a result of low spending levels, low achievement on outcome variables such as the number of patents filed, the proportion of scientists and engineers in the work force, and negative trade balances in both medium and high technology intensive manufacturing industries (1970-1984). Not only is Canada second last among eight countries in the number of patents filed, but of those that are filed in this country only 8 per cent are by Canadian inventors; by far the most are filed by Americans (half of the total), followed by inventors of Japanese and German origin.

- weaknesses in industrial R&D. The Canadian Institute for Advanced Research identifies in a recent report the complexity of science-based innovation and the number of elements involved (CIAR, 1988). These range from basic research (usually university based) through pre-competitive, long-term applied research (best done in industry but not necessarily by one firm) to competitive applied research and finally the developmental stage leading to the generation of a particular product or service. The argument is made that strength is required in all of these areas, and that the most noticeable weakness in Canada is at the pre-competitive, long-term applied research stage. Such a weakness in Canadian industry in turn makes it difficult for university-based researchers to link with counterparts in the private sector. It is in this area that firms could usefully collaborate in consortia, but both the tradition of cooperation, the commitment and the scientific capacity are lacking in Canadian industry.

- concentration of R&D spending. While spending has increased, the top four companies make up 30 per cent of Canada's total industrial R&D; the top 15 account for about half. There are only six of 29 industries that can be said to be research intensive as measured by high R&D expenditures as a percentage of sales.

- the structural weaknesses in Canadian high technology. Here, the reference is to the lack of large, world scale indigenous R&D intensive firms. There are a good number of small firms, but they are up against much larger competitors who have the product diversity to withstand occasional failures, and the capacity to conduct diversified R&D programs to minimize vulnerability.

Interpretations of Canadian weakness in science and technology typically dwell on the prominence of resource industries in Canada's past, which have not had to compete primarily on the basis of technology-derived productivity, and the high degree of foreign ownership of Canadian firms. Indeed, available data do indicate lower than average spending by resource firms in Canada and by the subsidiaries of foreign companies. The data also indicate, however, that these explanations may not be sufficient. Canadian owned companies, for example, spend less than comparable firms in the United States and this pattern holds within the resource sector as well (NABST, 1988). Another piece of the explanation may be in the problems faced by smaller countries in mounting and sustaining the R&D effort required by contemporary competitive conditions — in recovering the costs of R&D when the domestic market is limited, in mobilizing the people and funds required when companies are small, in having a sufficient number of world-scale companies that can have a positive mentoring effect on smaller firms (CIAR, 1988). Clearly there are important issues to be resolved. How, for example, will Canadian firms

assure themselves of access to a quickly evolving technological base when almost all of it is generated abroad? Will foreign ownership be a help or a hindrance in this respect? Under the free trade agreement, will branch plants of foreign companies be given a world-product mandate, or will they be regarded as increasingly unnecessary as lowered tariff barriers undermine their reason for existence?

With regard to the United States, it is also safe to conclude that its leading position in science and technology of earlier decades has in recent years been compromised. The United States still leads the world in a number of areas as measured by aggregate national-level data — in overall spending on R&D (in both absolute and relative figures), in basic research, in the number of bachelors' and masters' degrees awarded in the natural sciences and engineering, and so forth. However, the United States is no longer the leading nation on a number of other aggregate indicators. In addition, there are soft spots even on those indicators where the United States has maintained a predominant position. It is losing ground, for example, to other countries with regard to spending on R&D in that other countries are increasing their investment more rapidly. Much of the U.S. lead in total R&D spending is due to heavy government investment in defence-related spending; while such investments have had useful civilian spin-offs in the past (e.g., radar, computers, airplane design and manufacture) the sentiment is growing in the United States that the more esoteric nature of defence spending in recent years is producing fewer benefits for the civilian sector. Thus government R&D spending on defence is felt to be draining funds that are necessary for investment in the civilian sector (Branscombe and Brooks, 1989).

A good deal of research has been done not only on U.S. performance on various aggregate measures, but also in terms of more qualitative and micro-level indicators. From such accounts, it is clear that an area in which the United States excels is in basic research and in major new breakthroughs in science and technology. This is not surprising in view of the excellence of the elite American research universities and of some private and public laboratories such as the Bell Labs. The United States in fact is serving as a world resource for the generation of new ideas and for the training of students from virtually all parts of the globe. This is symbolized by the fact that a majority of the degrees now awarded at the graduate level in subjects such as engineering and mathematics by U.S. universities are awarded to non-citizens of the United States (*Everybody Counts*, 1989).

The downside of this strength, however, is the following. First, a number of examples suggest there is a tendency to develop very complicated, advanced technology that is excessive in relation to what the market needs or has the skills to utilize; a good example is the controls developed for machine tools which did not diffuse widely in part because of their complexity. Secondly, there has been a tendency for U.S. innovation to begin and end with the basic idea and its initial application in the form of new technology, leaving it to others to develop the product successfully for a larger market. Examples of this pattern include transistor radios, colour televisions, videotape recorders and numerically controlled machine tools. In all of these instances, the basic innovations were made in the United States but manufacturers in Japan and elsewhere were able to take advantage and develop the product for a large and expanding market. A number of analysts have come to the conclusion, therefore, that the United States has not achieved a

good balance between two forms of innovation: the step-by-step reduction to practice of a new idea on the one hand, and the incremental development of an existing product through gradual and continuous improvements on the other. The Japanese excel at the latter form of innovation (Brooks, 1989).

Part of the reason for U.S. weakness in this area is believed to be the bias in post-secondary educational institutions (carried into the workplace by graduating scientists and engineers) towards pure science, new product engineering, and analysis and design, as opposed to manufacturing and engineering that concentrates on how to build and improve products and the production process.

A final weakness that is worthy of note and that recurs in American industry case studies is the problem that arises from the compartmentalization of functions in the production process. As mentioned earlier, the Americans have perhaps taken mass production to its logical limits, emphasizing an extreme division of labour and the separation of conception from execution functions. In operation, this system is sometimes called the "over-the-wall" system, i.e., each unit performs its function in isolation from the others and the product is then thrown "over the wall" for the next step in the process. Thus designers do not interact with those who manufacture the product, and those who sell the product are not in touch with the designers and producers, hence muting the voice of the customer (Dertouzos, 1989).

The system, characterized by serial decision making, is also very slow in operation. This is illustrated by comparative data on product development time in U.S. as compared to Japanese plants. Research carried out by Kim Clark and others at the Harvard Business School reveals that, on average, the Japanese were able to move a new automobile product from the initial conception stage into the hands of the consumer in 43 months, while American and European companies required 62 months. In the process, the Americans and Europeans invested twice as many engineering hours to complete a comparable project.

> Thus Japanese firms are about one-and-a-half years "closer" to the consumer than their American rivals. In addition, the Japanese firms renew most of their models every four years while the Americans make theirs last eight to ten (with a cosmetic "face lift" and a "re-skin" of the exterior sheet metal along the way). The American product planner faces a 13 to 15 year planning horizon for a product while the Japanese planner needs think only seven-and-a-half years ahead (Womack, 1989).

While a number of organizational differences account for the greater efficiency of the Japanese, one of the key elements is the ability of the latter to organize product development in such a way that different tasks overlap with each other, rather than being pursued sequentially as is the case in the United States.

It is comparative research findings such as these that lead a number of observers to conclude that the Japanese advantage is as much sociotechnical as it is technical, centring on the organization of work and the use of human resources as much as on new physical technology (Brooks, 1985).

## 4. Conclusion

We have more or less assumed that national economies such as those of Canada and the United States, when faced with the new competitive, market realities outlined earlier in this chapter, should and would respond with a strategy that stresses improved competitiveness, higher productivity, improved product quality, continuous innovation, seeking to move to higher value added products and so forth. Indeed, the bulk of academic and policy-oriented writing supports this direction. To a degree, support for this approach also crosses labour-management lines, although there are important exceptions and qualifications (Kochan, 1988; Kumar and Ryan, 1988; Canadian Auto Workers, 1990).

Equally clearly, however, it is not the only response to the new environment that can be made, nor is it reasonable to expect that all parts of a national economy will respond in the same way. The other options, however, all involve reductions in a country's standard of living, its impoverishment, as the price of achieving competitiveness. These alternatives include support for protectionism, relying for competitiveness on a depreciated dollar, or trying to compete with low-wage competition from abroad by reducing production costs in North America. The latter might include breaking or evading unions, weakening minimum wage provisions, contracting work out to low-wage suppliers in the Third World, relocating plants abroad, and so forth.

It is difficult to come to firm conclusions on the extent to which a low-wage, labour union evasion strategy is being implemented. Certainly some firms are making this decision, as exemplified by Canadian and northern U.S. firms moving to the U.S. South and to the *maquiladora* region of Mexico. There are also reports of firms moving back to the United States and Canada from abroad, however, in response to shortages of skilled labour, the reduced share of labour costs in production as new technology plays a more important role, and as new practices such as just-in-time inventory systems increase the importance of physical proximity. Some case studies suggest that the outsourcing strategy followed by some producers was in fact a temporary response to extreme competitive pressures; the strategy essentially bought time in some instances for the industry to restructure itself along more capital-intensive lines, and this included the closing of some inefficient plants. There is little likelihood in any case that North American industry can compete on the basis of wage costs, as opposed to cost per unit of output, quality, precision, design or other standards; the differences in wages are just too great and the supply of low wage labour is virtually inexhaustible in the Third World (Kochan, 1988; Freeman, 1988). Many observers believe that the focus on squeezing labour, evading unions, or pursuing protectionism are simply the wrong issues and that a preoccupation with them obscures the real choices that need to be made (Dertouzos, 1989).

While there may be a right and a wrong strategic choice of direction to be made, the nature of the issues suggests that a country's response to the new environment is not likely to be automatic, inevitable or uniform. We will argue in later chapters that the result hinges in important ways on both political and social factors as much as it does on technical/scientific ones. Social factors are important because many of the changes that need to be made and the obstacles to be overcome are social in nature. We will review these factors in subsequent chapters, and we will conclude that social policies can be

designed which support either a low-wage or a high-wage strategic choice of direction. Political factors are important because the outcome will also be determined in part by essentially political contests, at the level of the workplace and in the regional community as well as at the national level — and the outcome of these struggles in the form of public policies.

## Chapter II

# The Impact of Technological Change on Employment

The relationship of social policy to the economy is complex. However, an important aspect of the relationship is the expectation that social policy and related programs will respond in a remedial manner to the social problems created by economic change. To define the issue in these terms is, however, quite broad. In keeping with the themes introduced in the previous chapter, and to keep the debate to manageable proportions, we have chosen in this chapter to focus in particular on the impact of changing technology on employment. The employment variable is chosen because employment-related issues shape many social concerns. The technology variable is chosen because technology, in the context of increased global competition and changing product markets, is suspected of contributing to a reduction in the number of jobs available, and to changes in the types of jobs. It may also contribute to problems of labour force displacement, as well as to problems of access to employment for groups that are already disadvantaged in the labour market, such as racial minorities, women, youth, and older workers.

As this discussion unfolds, the employment-related social and economic issues characteristic of the 1990s should become clarified, as well as the reactive role of social policy in addressing them.

## 1. The Level of Employment

During periods of high unemployment and rapid technological change, it is not unusual for concerns about automation and its tendency to replace labour to arise. The concern is understandable in view of the very visible effects of technology on some industries — for example, heavy equipment in underground mining, robots in the auto factory, word processors in the office and the replacement of bank tellers by automatic banking machines. An enduring image is that of the workerless factory which runs quietly for 24 hours a day and which is staffed by only a few maintenance and managerial employees.

There are at least three distinct issues to be discussed here: whether in the aggregate, at the level of the national economy, there is reason to be concerned that the kind of technological changes we are witnessing are likely to lead to "mass unemployment" as some writers would have it; whether the rate of displacement from jobs is increasing; and whether some industrial sectors more so than others can expect to lose employment in a disproportionate manner due to technological change. We begin with the aggregate question.

While it is certainly true that new technology is usually labour saving when it is introduced into the workplace, there are also compensating employment-generating effects which are real but often less visible. On the whole, economists are rather sanguine about this issue. They point out that employment may be saved in the long run by the fact that, first of all, the industry or firm is likely to be more productive than it was previously and therefore less vulnerable to competition. Secondly, demand for the company's product or service may in fact increase if its price per unit is reduced, thereby permitting the retention of labour or its growth to cope with expanded output. Thirdly, they argue that the reduced cost of the good or service in question will release the purchasing power of consumers to buy other products, thereby again stimulating demand and employment. Finally, as the computer industry has dramatically illustrated, the invention of new products generates employment for their production, marketing, servicing, transporting, and so on.

Brooks (1986) points out that there is not a strong historical case to be made for technological change leading to mass unemployment in aggregate terms. Since 1880, he writes, employment growth in the OECD countries has tripled despite the fact that mechanization has eliminated two thirds of all the jobs that existed prior to 1880. Thus one would need to make the case that technological change at the present time is somehow different from past waves, and link those differences to a greater propensity for creating unemployment. While he does recognize some differences (for example, the rate of change, the wider scope of activities to which the new technology is applicable, the international dimension), it is not clear that appreciably higher net unemployment will result.

Part of the reason for this is that levels of unemployment are determined by a large number of factors, and technology may well not be among the most significant. Clearly the level of demand for goods and services, for example, is a major factor in employment creation, and is very sensitive to governmental policies, fluctuations in the business cycle, and to a whole host of other considerations. The unemployment rate is also very much

conditioned by demographic factors such as the rate of growth in the labour force. The latter has slowed considerably and will continue to do so, thereby helping to offset the employment displacement effects of technology. For example, in March of 1990, the number of jobs available in the Canadian economy declined from the previous month but the unemployment rate actually fell from 7.7 to 7.2 per cent because of a significant decrease in the number of persons looking for work (Statistics Canada, 1990).

Substantial reviews of the employment effects of technological change have recently been undertaken by both the Economic Council of Canada (1987) and the National Academy of Sciences/Engineering/Medicine in the United States (Cyert and Mowery, 1987). In the Canadian case, higher employment growth rates are found in the high-tech sector of the economy than in the medium or low-tech sectors in the period 1971-1981. Additionally, the high-tech sector has increased its share of Canadian employment from 44.4 to 54.0 per cent of all jobs between 1971 and 1985. In its projections of the employment effects of computer-based technology in particular, to 1995, the Economic Council report is also fairly optimistic, although the results depend on the assumptions built into the model. Taking into account both historical experience and knowledge about how the new technologies may shift employment in patterns not observed historically (in changing, for example, the occupational mix of jobs), considerable job displacement is projected — as much as 644,000 jobs or 7.9 per cent of the 1981 labour force. Taking into account, however, that labour is not only displaced but also re-employed (for reasons given above) an even larger number of persons are predicted to be re-employed — some 715,000 or 8.8 per cent of the 1981 labour force (Economic Council of Canada, 1987).

The U.S. review mentioned above comes up with similar conclusions, relying particularly on studies undertaken by the Bureau of Labour Statistics. Again, projections are undertaken to 1995 and net growth in jobs is projected in all but 11 of the 350 occupational groups that have employment levels above 25,000 persons (Cyert and Mowery, 1987).

There are, of course, other studies which come to different conclusions; this is not surprising in view of the diversity of methodologies used and the complexity of the subject matter. Nevertheless, the prevailing opinion on the matter is that there is much more reason to be concerned about "churning" in the labour market — the large numbers who will be displaced from work and who will need to shift to new jobs — than there is about the absolute level of employment. Indeed, a strong case can be made to the effect that it is failure to adopt new technology that will lead to major job losses in North America, not its adoption, because of the increased competition faced by North American industry from producers overseas.

We have not actually seen figures which compare the rate of labour force displacement between earlier and more recent periods, and thus we are unable to conclude that the rate of displacement has increased. The level of job loss and firm closure does appear to be very high, however. The Economic Council estimates, for example, that about 20 per cent of manufacturing jobs disappear each year, either because firms go out of business or reduce their labour force requirements (estimated to account for about 8 per cent of manufacturing jobs) or because workers choose to move (10 to 12 per cent of jobs).

With the advent of a more competitive trading environment in general, and the Canada-U.S. Free Trade Agreement in particular, more attention is being paid to the question of policies to facilitate adjustment. For firms, the advisability of policies such as temporary import limitations and capital investment subsidies are being assessed in terms of their usefulness in giving trade-sensitive industries time to adjust. For workers, improved policies such as those dealing with advance notice of lay-offs, severance pay, wage earner protection in the event of sudden bankruptcies, and income support programs for older workers, are among those being considered.

Running through the debate about worker adjustment programs are at least two more general issues. First is the question whether special programs should be developed — for example,to assist those specifically disadvantaged by the free trade agreement or to assist persons or firms in particular regions or population groups — or whether to rely on programs available to the population as a whole. The advice of advisory bodies to the federal government favours broadly based policies for the most part, in part because of the difficulty of establishing in a clear, unambiguous and non-political manner who has been a victim of the new trading environment and who hasn't. There is also the question of fairness, a standard that would not be met if those who lose their jobs for trade-related reasons were given different treatment than those who are displaced for other reasons — for example, the firm closing because the owner has died (*Adjusting to Win*, 1989).

A second important issue is the balance between interventions that simply maintain incomes, for example unemployment insurance or early retirement programs, and those that are more actively geared to employment promotion, such as employment services, training and job creation measures. It has become fashionable to express this policy choice as one between the "safety net" and the "trampoline" approach, meaning by the former passive policies that provide no incentive for the displaced to find new employment, and by the latter policies that in effect hurl people back into the employed labour force (Helliwell, 1988). In comparison with other countries, Canada is notable for the degree to which it expends its resources on a passive approach — some 75 per cent of labour force expenditures devoted to income maintenance and 25 per cent for employment promotion. The comparable figures for Sweden, at the other extreme, are 30 and 70 per cent respectively (*Adjusting to Win*, 1989). In terms of what may be required in the new economic era, however, even an active labour force policy may be insufficient. It, too, is reactive to the resolution of problems once they have occurred rather than placing primary emphasis on the measures that would, in the first instance, make firms more adaptable and competitive.

Apart from questions concerning the aggregate level of employment and increased "churning" in the labour market, a third issue with important social consequences is the ongoing shedding of labour that is taking place out of manufacturing and resource industries in particular. The well-known secular decline in manufacturing proceeds apace, caused by many of the factors we have discussed in Chapter I but especially by the continuing displacement of labour by new technology. It is worth noting that the importance of manufacturing to the economy as a percentage of gross domestic product (GDP) has remained relatively stable — 21.8 per cent in 1947, 21.6 per cent in 1981 — but its share of employment has dropped appreciably over the same period of time. Added to

the loss of manufacturing employment is the reduction in resource sector jobs, affecting Canada's more rural and northern regions especially. Osberg (1988a), for example, points out that employment in resource industries decreased by one fifth between 1981 and 1986, bringing with it a sharp increase in unemployment, to double digit levels, not only in the Atlantic region but also in northern Ontario, Quebec, the northern prairies and British Columbia. In Canada's metropolitan areas, unemployment rates in December 1989, averaged some 6.5 per cent, and cities such as Halifax (long considered to be part of an underdeveloped region) had rates quite close to this average. In the more rural and resource-dependent hinterland, however, unemployment rates were much higher, confirming that inequality within provinces remains an important basis of inequality in the country. A sharp increase in the proportion of long-term unemployment has also been noted in the more northern and rural areas of Canada (Statistics Canada, 1990; Canadian Employment and Immigration Advisory Council [CEIAC], 1989).

The resource industries have, of course, always faced boom and bust conditions in Canada, but projections of employment over the longer term are also not optimistic for the most part. While the causes vary from one resource sector to another, the factors we have discussed in Chapter I figure prominently — the slowing of growth in demand in sectors such as agriculture, forestry and minerals; increased competition from Third World and other countries; technological change, both in the use of automated labour saving equipment and in the development of new products that substitute for natural resources; and the need to develop smaller, more flexible production facilities designed to serve more quality-conscious, specialized and changing markets.

Thus, while there are strong economic policy reasons for encouraging continued innovation and technological development in Canada's manufacturing and resource industries because of their importance for Canada's export picture, the downside of these developments is found in regions of the country that are losing their employment base. These developments pose important social policy issues. The fishing industry in Canada's East Coast is a case in point. After a period of expanding employment in fishing and processing due to the proclamation of Canada's 200-mile limit in 1978, the industry has fallen on hard times. Competition for access to the resource has become extreme, not only from foreign fishing fleets but also from different types of domestic boats (inshore, midshore and offshore), each equipped with newer and better technology for maximizing the catch. As the available fish stock has become sharply reduced, towns such as Canso and Lockeport in Nova Scotia, and Trespassie and St. Anthony in Newfoundland are threatened by the closure, or at least the sharp reduction in operations, of their fish plants. Hundreds of fishermen and fish plant workers are being thrown out of work. With minimal education levels, little confidence that they can compete in an urban service sector labour market, and little desire to move from communities that have been home to their families for generations, they present a considerable challenge for the development of appropriate economic and social policies.

The effects of displacement in the more peripheral regions of the country would not be so serious if alternative employment could readily be found. But House (1988), Marchak (1983) and others who have studied employment in resource-dependent regions point out that employment stimulation through backward and forward linkages with the resource industry is very weak in the peripheral regions. While some of those laid off will

be successful in finding new positions in work related to their previous occupations, and others will retire or remain unemployed, available data indicate that about 40 per cent of those separating from goods industry employment are having to obtain their next job in the service sector. But service sector jobs are also not equally distributed across the country. What the Economic Council calls "dynamic" services, such as services to business, have a tendency to be disproportionately located in the more metropolitan and central regions of the country (Economic Council of Canada, 1990; Grude, Osberg and Wien, 1991).

Apart from the implications in regional terms, technological change and declining employment in manufacturing and resource sectors have also been implicated in discussions about changes in the types of jobs available. Two important issues here are changes in the distribution of skills and incomes, which we review in the following two sections. In the course of this discussion, the increasing use of part-time and other forms of non-standard employment is also documented.

## 2. The Changing Skill Requirements of Jobs

More so than terms such as unemployment or earnings, the concept of skill and its measurement are fraught with difficulty. If one tries to come to conclusions about changing skill requirements based on aggregate data, one is usually restricted to measures such as the educational level or vocational preparation required to perform a particular function. Yet it is recognized that the concept of skill is multidimensional, involving such diverse components as conceptual demands, skill in executing a particular course of action, and the scope of knowledge that a particular course of action requires (Kelley, cited in Kuhn, 1987). These dimensions are imperfectly measured by levels of formal education and training. Indeed, there are many well known examples of occupations, such as fishing, which require a high level of skill but little educational or vocational preparation. Even if one could measure the various dimensions of skill more adequately, one would still be left with the problem of adding the measures together across skill dimensions in order to come up with an overall indicator.

Those who are studying the skill question in the context of the new economic environment are having difficulty in coming to firm conclusions, even if they limit themselves to case studies of a single occupation in one or two locations. Results may depend, for example, on the timing of the study in relation to the phase of technological change being implemented. The early introduction of computers involved tedious work for keypunchers, but data is no longer entered in this way. In office work, similarly, the early introduction of word processing equipment seemed to lead to more deskilling than is now the case with the newer technology. There are also difficult judgments to be made. Computer software may well reduce difficult tasks to simple ones and can be argued to contribute to deskilling — for example, in the case of cash registers at McDonald's that have pictures or words on the keys for each type of hamburger. In other contexts, however, such as drafting or accounting, computer technology may usefully simplify some

tedious aspects of the work while enhancing others (through computer imaging, for example) thereby permitting more time and scope for creative work.

Some case studies are also reporting results which thankfully get away from the long-standing issue of the upgrading or downgrading of skills. These address the role of technology in generating a shift in skills, usually changes that involve a broadening of the range of tasks that are required. Computer systems personnel in banks, for example, seem less concerned with only technical matters, according to one recent study, and are more likely to be involved with analytical tasks and in communicating across the divide that separates technical personnel from those employees in banking who are needing to use the new equipment and software (Kuhn, 1987). To take another example, those who build the new generation of machine tools need to be conversant not only with the principles of mechanical engineering but also with the knowledge and skills to handle electrical and programming tasks, not to mention the capability of providing much more customer support than used to be the case (March, 1989). A final example can be drawn from the insurance or real estate industries, where the availability of distributed computing capabilities permits salespersons who interact with customers to perform a much wider range of tasks than before because of the computerized data base available to them and the ease of entering data and receiving print-outs or displays on the spot (Noyelle, 1987).

With these cautions about the complexity of the issue and the difficulty of adequate measurement, there seems to be sufficient evidence derived from case studies, from reviews of what is happening in particular industries, and from research using aggregate data, to reject the idea that a uniformly pessimistic or optimistic interpretation is enough to explain what is happening with regard to skill levels. On the pessimistic side Braverman (1974), among others, has argued that the introduction of technology is part of a strategy by employers under capitalism to rob workers of their skills in order to control production (hence the separation of conception from execution and the fragmentation of work). In his well-known treatise, he submits that in both manufacturing and the expanding service sectors, there is skill upgrading for some (especially a small group of managers and engineers), but there is also the degradation of skill for the mass of the labour force.

Yet his predictions, while they appear accurately to reflect the experience of much of the past century, do not seem to capture all of the changes that have taken place in the 1970s and 1980s and that give every indication of continuing. To review briefly our earlier discussion, and at the risk of oversimplifying, it appears that firms are seeking to compete in the new environment by pursuing one of several strategies, or a mixture of strategies. They may seek to become competitive by reducing the cost of labour, for example, and by seeking greater labour force flexibility unhindered by unions and other constraints. They may tend toward reducing the labour content of production through a strategy of automation and organizational restructuring targeted at reducing cost per unit of output and aiming for a mass market. Or, they may respond to a more uncertain economic environment by seeking to compete on the basis of a total organizational commitment to flexibility, quality, and service, "emphasizing the enhancement of value through quality improvements, customization, innovation, rapid delivery and strong service support. This strategy is designed to take advantage of more sophisticated and

varied tastes of consumers with higher levels of disposable income, as well as the capability of advanced manufacturing systems to reduce economies of scale and capitalize on economies of scope" (Kazis, 1989).

As we have noted, it does appear to be possible to introduce the new technologies without breaking from traditions of control and fragmentation of work, if management is determined to do it this way. The textile industry is often mentioned in this regard as one where management is reluctant to shift the locus of decision making and control towards workers, and where there is a fear that upgrading skills would leave them with a shortage of qualified workers at wages management is prepared to pay (Kazis, 1989). At a more general level, Albin and Appelbaum (1988) describe what they call the algorithmic form of production and work organization, which seeks to apply computer controlled processes that operate without the intervention of skilled workers to make adjustments and corrections:

> Many firms remain committed to this approach today and continue to design the production process to approximate a situation in which the information system that controls the production equipment or process anticipates all possible inputs or environmental changes and, using algorithmic decision rules, makes all decisions. The guiding principle of such a design approach . . . is to limit the need for workers' skills and to reduce the role of human knowledge and judgement in the production process by designing ever more perfect, self-regulating production systems . . . .
>
> The computer is used to limit decision-making and creativity in the jobs of operators, clerks, technicians, and service workers and to centralize and control these functions higher up in the bureaucracy . . . . Knowledge of the nuances of the product or the production process by workers is redundant, since only knowledge already imbedded in the information system controlling the production process has any effect on the product or service produced. Since the system cannot use the knowledge of workers, firm-specific skills are devalued and companies following this path of development are reluctant to invest in training their workers. Internal labour markets are weakened as the importance to employers of developing a trained and loyal workforce declines. Skills are lost or not developed, jobs are simplified and workers become extensions of the machines with which they work.

They go on to describe the application of this form of organization to the service sector, describing the work of women in huge clerical processing centres located in economically depressed small cities, in suburban areas, or abroad, where women who seek jobs have few alternatives. Here, most of the workers perform routine data-entry functions, usually at low pay and often on a part-time basis; only a few have the opportunity to advance to supervisory positions.

As we have noted, however, such a form of work organization is not well suited to a rapidly changing, uncertain environment. Under these conditions, it is not surprising that a different form of production and work organization has developed, one where the whole organization (and not just a pool of low-wage, unstable workers at the bottom of the hierarchy) is geared to making flexible adaptations to the environment. The skill implications of this approach, referred to by Albin and Appelbaum as the "robust computer rationalization of work," are as follows:

> The availability of relatively inexpensive microprocessors has opened up a second, alternative path of development. The low cost of microprocessors makes it possible to

> use them to increase the knowledge and enhance the capabilities of a wide range of workers, increasing both the skill levels of workers and the flexibility of work organizations in allocating labour. Computer-rationalization of production proceeds in this case by substantially increasing the amount of information that can be stored and processed, enhancing the decision-making capacities of clerks, operators, engineers and design personnel alike. It differs fundamentally from computer-rationalization based on standardizing and reducing information inputs and applying algorithmic decision rules to fully anticipated situations.

Thus, a firm emphasizing the second strategy would demonstrate an overall upgrading of skills, if workers are satisfactorily to perform in more broadly defined job classifications, in teams that require multiple skills, in tasks that involve design as well as production work, in quality circles, and in trouble-shooting roles oriented to improving the production process.

The two forms of work organization have implications for the stability of jobs as well:

> The robust/algorithmic distinction is sharpest in a comparison between firms facing a fairly stable environment with a technology that is changing slowly at best and those in an environment characterized by fairly rapid changes in supply or demand conditions. Firms in a stable environment will want to be as fully adapted as possible for the conditions in which they are currently functioning. In these instances, algorithmic forms of organization may not be inappropriate. Firms in a rapidly changing environment, however, require flexibility and adaptiveness. Algorithmic computer rationalization in such firms limits worker skills and thereby sharply constrains the capability of the technology to respond flexibly to changing or unpredictable conditions. Where flexibility cannot be achieved through optimal use of the technology, firms turn, instead, to labor practices that replace full-time workers by part-time or temporary workers to achieve this goal (Albin and Appelbaum, 1988).

No doubt there are many reasons for the trend, including the continuing shift to service employment, but there has in fact been a significant increase in the proportion of part-time and other short-term work in both Canada and the United States, as many observers have noted. The Economic Council of Canada (1990) divides the growth of non-standard work into four components: part-time work, short-term work, own account self-employment and work for temporary help agencies. Overall, these four types of employment have accounted for about half of all the new jobs created in the period 1981-1986, and they now represent nearly 30 per cent of total employment in Canada. The limited levels of pay, benefits and job security attached to these kinds of jobs raise important issues for social policy to address, as this conclusion from the Economic Council's report suggests:

> We are concerned, however, by some trends that, together, suggest a growing segmentation of the labour market. This is evident, for example, from our analysis of labour adjustment patterns, which suggests that while part of the work force appears to be very mobile, other groups are experiencing difficulty in adapting to the changing job profile. We have also found evidence of segmentation in terms of earnings, skill content, job stability, and the location of employment. Two quite distinct "growth poles" account for virtually all of the employment expansion in the 1980s: one includes highly skilled, well compensated stable jobs, while the other consists of nonstandard jobs with relatively low levels of compensation and stability. The implications of our research is that the labour market is offering economic security to fewer Canadians (Economic Council of Canada, 1990).

If there are, then, competing models of production and work organization being implemented, as Albin and Appelbaum suggest, it helps to explain why case studies and reviews of developments in some industries tend to support the enhancement of skills hypothesis as being a logical concomitant to the introduction of the new technologies (Noyelle, 1987; Kuhn, 1987; March, 1989; Dertouzas, 1989; Womack, 1989). At the same time, other case studies come to different conclusions. Clement (1981), for example, takes a look at the Inco mining operation in Sudbury and finds that below-ground workers are moving from hand labour to mechanization. He sees this as deskilling in that manual labour entailed little supervision and permitted considerable diversity in work. With mechanization, the miners in his view become simply machine operators, restricted to a more limited range of tasks. Above ground, the shift is from mechanization to automation where the technology requires only patrolling and maintenance work. His skepticism about skill upgrading is shared by such observers as Noble (1984) and, to a degree, Shaiken (1984).

In the face of conflicting results at the micro level, what kinds of conclusions are emerging from studies that use national-level, aggregate data? Research in Canada and the United States appears to document an overall trend toward jobs with higher skill requirements, although there are important qualifications to be made to this conclusion. The most thorough study of the changing skill mix of Canadian jobs, which reviews trends over the period 1961-1981, finds strong evidence of skill upgrading (as measured by general educational development and specific vocational preparation) for the workforce overall and for women, although not for youth in the 1970s (Myles, 1988a). More precisely, Myles clarifies that skill change can occur both through compositional shifts in the distribution of employment, and through changes in the work content of given occupations. With respect to the former, he finds that professional/managerial occupations have expanded significantly in proportion, mass white-collar occupations have expanded more modestly, and there has been a decline in the share of blue-collar work. At the same time, the work content of jobs has changed in that there has been a significant shift from lower to higher levels of administrative work, a substantial upgrading of white-collar jobs, and no change in the skill composition of blue-collar work.

Since the service sector now accounts for some 70 per cent of total employment and is forecast to continue to increase in proportion, some analysts suggest that it is trends within the service sector that should be particularly important in accounting for changes in skill levels. The results of Boyd's analysis are instructive in this respect. She examines compositional changes within the service sector in the period 1971-1986, and suggests there is little evidence to support the skill degrading hypothesis, nor is there much support for the idea of a growing polarization of skills. The Canadian Labour Market and Productivity Centre concludes that growth in the higher skill segments of the service sector, such as in education, health and welfare, and and services to business management has outstripped growth in the low skill components such as personal and community services (*QLMPR*, Spring 1988 and Winter 1988). The recent report from the Economic Council, *Good Jobs, Bad Jobs*, comes to similar conclusions but goes on to say that the shift in employment from goods production to services is contributing to a degree of skill polarization: "... the employment shift to services is contributing to gains in the

highly skilled occupations, a decline in the share of middle level skilled jobs, and a stable proportion of low-skill jobs" (Economic Council of Canada, 1990).

Some forecasts project the educational requirements of future, as compared to existing jobs. They suggest for both Canada and the United States that a higher percentage of jobs expected to develop in the period to the year 2000 will require a post-high school education. Thus, for the United States, 42 per cent of jobs in 1984 required more than a high school education, compared to an anticipated 52 per cent for the new jobs to be created by the year 2000 (Johnston, 1987). In Canada, the 1986 figure is 44.4 per cent, to rise to 64.3 per cent in the period 1986-2000 (*Adjusting to Win*, 1989).

Finally, information is also available from the United States which suggests that the proportion of jobs with a low skill rating (from 0.7 to 3.4 on a 7.0 point scale) is expected to decline while the proportion with a skill rating above 3.5 is expected to increase. U.S. data also show that the fastest growing jobs require much higher math, language, and reasoning capabilities than current jobs, while slowly growing and declining jobs require less (Johnston, 1987).

The evidence is beginning to add up, therefore, to the conclusion that a process of overall skill upgrading is taking place, at least if one is prepared to accept conventional measures of the concept and aggregation of data across groups and regions. This is occurring not only because of the impact of technology in shaping new jobs, but also because technology is contributing to the elimination of low-skill employment through automation.

While Braverman is too pessimistic, those who argue that skills would be upgraded to the point that the bulk of the workforce is engaged in skilled, mental work and the prototypical worker is a service-providing professional, are also wide of the mark (Bell, 1973). In particular, they pay insufficient attention to the down side of current trends, especially the steady generation of a large number of low-skill, low-wage jobs, especially in the portion of the service sector associated with consumer services such as the food, beverage and tourist industries. What appears to be happening, according to Myles, is not a growing cleavage between professional/managerial occupations and all other workers, as Braverman would have it. Rather he suggests that a growing bifurcation is occurring within the white and blue-collar working class itself, a portion of which has been growing and contributing to skill upgrading (e.g., the provision of public and business services) and another portion of which involves an expansion of low-wage, low-skill jobs in areas such as consumer services.

## 3. Technology and the Distribution of Employment Income

There is a voluminous literature on issues of income distribution in advanced industrial societies. Many additions have been made to it in the last several years as social scientists (especially in the United States but also in Canada) have engaged in a debate about whether the distribution of incomes, after several decades of narrowing, is now

widening again. Those who do find an increase in inequality then continue the debate around the question of what accounts for the change.

The conclusions social scientists draw from their research depend a good deal on the methodology chosen. The time frame selected, for example, is important. Many recent studies have restricted themselves to the first half of the 1980s and thus have difficulty separating out long run trends from the effects of the severe recession in the early part of the decade (recessions typically increase income inequality because of the increase in unemployment). The choice of a dependent variable is also important. Family income is an option, but may show a different result than would individual income. Explanations will need to take into account not only the factors bearing on the distribution of individual income but also changes that have taken place in the structure of families, such as more dual-earner and single-parent families. It will also make a difference whether one looks at total income from all sources, or only income from employment. Banting (1987), for example, reports an increase in the inequality of family earnings from employment in the 1981-1984 period, but then finds that the observed inequality is largely neutralized by transfers from the public sector as well as by the tax system. Taking a longer time perspective (1971-1985) the main message is again one of stability in the distribution of total income. Finally, one will obtain different results if one looks only at full-time, full-year workers, than if one includes part-time and seasonal workers.

We will not review the whole debate here, but rather concentrate on the main point at issue — viz., whether changing economic conditions, including technological change, contribute to greater income inequality. We look particularly at studies that use changes in the distribution of jobs at different wage levels, or individual employment earnings, as the dependent variable.

As Braverman has done for the debate about changing skills, so Kuttner (1983) has provided a relatively clear hypothesis about what is happening to the distribution of employment income. This is the thesis of the declining middle, and it has been the focal point for much of the research that has been carried out over the last several years. Kuttner's thesis is essentially that the relative size of the middle class in the United States is declining, its numbers reduced by trends which move some persons higher up the income ladder and others to the lower ranks, resulting in a more polarized income distribution shape overall. Several forces are said to be contributing to this result — for example, technological change (of which more below); de-industrialization, by which is meant the decline of manufacturing employment (characterized by middle-income jobs with low-wage dispersion) and the expansion of service employment (characterized by lower average wages and more wage dispersion); the erosion of union strength which is down to less than 17 per cent of the employed labour force in the United States; the growth of international competition and globalization (whereby good American manufacturing jobs are lost to low-wage countries), and the negative impact of public policies during the Reagan era.

Technological change is implicated in this debate in at least two respects. First, as we have seen, it has an impact on the changing mix of occupations and their skill levels. Automation, it is argued, eliminates some low-skilled, mundane jobs and it can also deskill work content in other positions. At the same time, it contributes to the growth of

more highly paid positions in the form of engineers, scientists, technicians, researchers, and so forth. Secondly, technological change contributes to the loss of employment in the goods-producing sector of the economy, leaving those displaced (or new entrants to the labour force) with little alternative but to find employment in the service sector. Both the occupational and industry shifts could have important implications for the distribution of income.

A number of studies have addressed the question empirically. The first question is whether in fact the middle class is eroding and being replaced by a more polarized income distribution. The results depend on the methodology and indicators used, but in Canada there is some support for the idea that the relative proportion of people in the middle income range has declined since 1971. Leckie (1988), using census data and identifying the middle class as those who have an income within 85 to 115 per cent of the average employment income, finds that the size of this group declined from 24.2 to 22.7 per cent between 1971 and 1981. He also finds, however, a slight decline in the low-income group (from 47.0 to 46.8 per cent) and an increase in the high-income group which grew from 28.8 to 30.5 per cent of all employment. Thus the income polarization hypothesis receives only partial support from this analysis.

Using a different data set, the Survey of Consumer Finance, Leckie goes on to report a decline in the size of the middle class from 30.0 to 25.7 per cent between 1971-1984 (what happens to the other income classes is not reported). Here he defines the middle class as being comprised of those with an income within 25 per cent of the average, thus including a broader group. He proceeds to discuss other measures of inequality and income polarization — for example, the share of total employment income held by those in the middle, the Gini coefficient, and a measure of income polarization. While he draws attention more to the stability of results over time than to their change, there was a tendency for inequality in the distribution of employment income to decrease in the 1970s and to increase in the 1980s. The measure of income polarization increased slightly in both decades.

The results reported by Myles *et al.* (1988) cover the period 1981-1986. Jobs are classified into 10 categories of roughly equal size, according to their average wage level in 1981. With Category 1 representing the lowest wage category and 10 the highest, they find that the major changes are as follows: the number of jobs increased by 33.5 per cent in Category 1 and by 20.9 per cent in Category 7. The major decline was in Category 3 (16.5 per cent). They take this as evidence of greater polarization of wages and, one infers, as support for Kuttner's hypothesis about the declining middle. Their interpretation depends, however, on the assumption they make that Category 3 (out of 10) represents a portion of the middle- rather than the lower-income class. If one makes the not unreasonable assumption that the lowest three categories and the highest three categories can be considered as the low and upper groupings respectively, with the middle made up of the four categories in between, then a somewhat different conclusion results. Under these circumstances, the share of the labour force comprised by the lowest three wage categories increases from 29.3 to 29.8 per cent, the middle remains stable (39.4 to 39.5 per cent) and the upper category declines, from 31.2 to 30.7 per cent. As with Leckie's results, then, the conclusions to be drawn about the changing size of the middle class and income polarization are quite sensitive to the cutting points that are used.

With regard to the voluminous U.S. literature, we will not attempt to summarize it here. Again, depending on methodology and time frame, different studies produce different results; Leckie (1988) summarizes 20 American studies. However, the majority seem to agree that inequality in the distribution of earnings has increased. Harrison and Bluestone, for example, have been in the centre of this debate. They find that the increase in inequality dates from about 1975, that the level of inequality was as high in 1986 as it was in 1966, and that there is support for the declining middle hypothesis (Harrison and Bluestone, 1988; Bluestone and Harrison, 1989).

There is even more debate about the causes of increasing inequality in wage rates or earnings. The most relevant question for us is whether technological change is an important factor. The results of the Canadian studies suggest not, at least not directly and in a major way. Leckie, for example, compares the performance of the high-tech sector of the economy with the medium- and low-tech sectors. He finds that in the high-tech sector all three income classes (upper, middle and lower) have increased their share of employment between 1971 and 1981. Thus, "... industries with relatively low utilization of high-tech inputs appear to have lost ground in generating middle-class jobs" (Leckie, 1988). Neither Leckie nor Myles *et al.* find support for the idea that the changing occupational mix of jobs, or the shift in employment from manufacturing to services (a shift to which technology probably contributes through the displacement of labour via automation) play a major role in contributing to the observed inegalitarian tendencies. According to Myles and his colleagues, it is changes in the distribution of wages within occupations and industries that largely accounts for changes in the shape of the overall wage distribution. More specifically, they conclude as follows:

> It seems that Canada's "declining middle" (or lower middle) was largely created by dramatic shifts in the distribution of wages paid to workers in different age groups — downward movement in the relative wages of youth and some upward movement in the relative wages of older workers. The polarization in the wage distribution was not occurring among adult workers in general .... But what of the industrial and occupational restructuring of jobs which is often discussed as a major factor in the changing wage distribution? ... these shifts in employment patterns, though significant in themselves, account for only a modest share of the changes in the wage distribution between 1981 and 1986. Their impact pales in comparison to the changes occurring across the whole economy — in full-time jobs, in all industries and in all occupational groups. For example, the real impact of the consumer services sector on the creation of low-wage jobs for young people was not so much that more people were working in the sector, but rather that the wages paid in full-time jobs in the sector shifted downwards .... (Myles *et al.*, 1988).

Osberg *et al.* (1989) give a plausible interpretation for the lack of impact on the distribution of earnings due to occupational and industrial shifts. Their perspective is worth mentioning because it deals more explicitly with a category of workers that are now in the majority in the emerging information society. Thus they distinguish not only between a goods producing and a (personal) service sector, but they also carve out an information services sector composed of persons whose occupations principally involve "paper pushing" — the production, distribution and use of information. Within the information sector, a distinction is made between the production of data — "the routine manipulation, storage and transferral of information within previously defined categories"

such as clerical work, and the production of knowledge — "the establishment of original categories of analysis" such as engineering or computer programming.

To the extent that shifts among these sectors affects the distribution of employment earnings, Osberg *et al.* maintain that the expected shifts are likely to offset each other, leaving the level of inequality largely unchanged. On the one hand, it is to be expected that improvements in productivity in the goods producing sector will displace labour which (they assume for illustrative purposes) will be absorbed into personal services. As we have seen, much of the debate in the literature is concerned with this shift. On the other hand, however, a shift from data production to knowledge production is also to be expected, based on productivity improvements in the data sector and the absorption of data workers into the knowledge sector. This shift would represent an offsetting influence, since average incomes are higher, and dispersion lower, in the knowledge sector than they are in data production (Osberg *et al.*, 1989).

If occupational and industrial shifts are not important factors in the observed increase in inequality, what does explain the trend? At present, a number of possible explanations are being advanced, but researchers are not confident that this mystery has been satisfactorily resolved. They suggest these factors:

- the increased proportion of women in the labour force which, because of the gender gap in earnings, contributes to the growth of lower income employment. Myles *et al.* (1989) find this to be an important contributing factor in the period 1967-1981 but less persuasive since then.

- the baby boom effect, i.e., the increased proportion of young persons in the labour force, who bring with them high within-cohort wage dispersion. However, the baby boom population is now older, moving into middle age and higher earnings levels while the proportion of younger persons entering the labour force is declining substantially (Beach, 1988); thus this demographic change may have a benign impact on the distribution of earnings in the future.

- changes in family composition, especially the relative growth of single-person and single-parent households who tend to have low earnings.

- industrial relocation, which Beach feels is important in the United States as companies relocate from the industrial Midwest to the South where weaker unions and higher inequality prevail.

- an increase in the proportion of part-time work in the Canadian and U.S. economy, and the declining impact of unions in the wage determination process (Economic Council of Canada, 1990).

- changes in the number of hours worked. Myles *et al.* (1989) find that the latter has increased earnings inequality in that, on the whole, higher wage earners have increased the number of hours worked while lower wage workers have decreased the number of hours worked.

While the causes remain unclear, nevertheless there is good reason for social policy to continue to be concerned about the growth in inequality of employment earnings. Indications are, however, that technological change is not a major contributor. Some would argue, in fact, that technological change, if properly implemented, should be seen as part of the solution more so than part of the problem, because of its importance to a strategy of generating a high-wage, high-employment response to the challenge of international competition and changing product markets. As has been emphasized, however, such a response depends on many factors, including political and social ones, that go well beyond the realm of technology *per se*.

## 4. Structural Unemployment

We have established in earlier sections that technological change, operating in an environment of increased competition and changing product markets, has a significant impact on the educational and skill requirements of jobs. It contributes to high rates of job displacement. It is to be expected, therefore, that one of the negative impacts of technological change (in combination with changes in labour supply) is its contribution to structural unemployment. We define this term as unemployment that cannot readily be cured by an expansion of overall monetary demand, but which is attributable to a persistent gap between the education, skills, location and other attributes of the labour force on the one hand, and the requirements of the economy on the other. People stranded in the wrong regions, youth who have dropped out of school, or those engaged in obsolete occupations, would be deemed to be structurally unemployed.

What is the evidence concerning a possible growth in structural unemployment? Perhaps none of the pieces is conclusive as a single item, but taken together they seem to establish a pattern. First, there has been a significant increase in the proportion of the unemployed who are out of work on a long-term basis. In Canada, for example, there has been a continuous increase in the proportion of the unemployed who have been without work for over a year, rising from 4.2 per cent in 1981 to 11.4 per cent in 1987. No doubt part of the rise is explained by the recession, but unemployment rates, by and large, have been decreasing in Canada from 1982 to 1990, yet the proportion of long term unemployed has been increasing in size (*QLMPR*, 1988).

At the same time, various sources report shortages of personnel for skilled positions. Surveys of industry, for example, report that in 1988, 14 per cent of manufacturing firms, and 43 per cent of small businesses generally, were experiencing shortages of skilled labour (*Adjusting to Win*, 1989). The number of unfilled vacancies is estimated at 4.7 per cent of the labour force in the first 11 months of 1988, up from 3.8 per cent in 1987 (*QLMPR*, Winter 1988). Also, the unemployed themselves, in responding to surveys, believe that lack of education, skills and experience are major impediments to finding employment, although the most frequent response is to identify lack of jobs as a problem (*QLMPR*, Spring 1988).

While there are many types and sources of structural unemployment, the type that seems particularly characteristic of the new economic era is that arising from a lack of fit between the skills and education levels of a significant portion of the labour force on the one hand, and the requirements of jobs on the other. Looking first at the demand side of the economy, we have already noted (albeit with qualifications) the increased skill and education requirements of jobs in the economy. Technological change has contributed not only to the upgrading of skill requirements in many jobs, but also to the reduction in the number of jobs available for those with low levels of education. The Economic Council of Canada's analysis of job changes in the period 1971-1981 reveals that the number of jobs held by persons with less than a Grade 9 education decreased by 33.3 per cent over the decade; those with Grade 9 or more (but less than university) increased by 41.9 per cent and those with some university by 66.9 per cent. Much of this can simply be attributed to the fact that the "education mix" of the population has changed over the decade, i.e., the changing supply of workers who have attained, on average, higher levels of education. However, the council is also able to separate out the independent effect of technological change on the distribution of jobs by education level. Their conclusion is that "the effect of technological change was to reduce employment of people with less than Grade 9 by 15.4 per cent and people with Grade 9 or more but no university by 7.7 per cent. On the other hand, technological change acted to increase employment of people with some university by 3.4 per cent" (Economic Council of Canada, 1987).

As noted above, the supply of labour is becoming more educated on the whole as older workers retire and the large youth cohort becomes established in the economy. Canadian data indicates that the number of university graduates has more than doubled between 1975 and 1987, while the proportion of the labour force with less than secondary education has been halved, from 20 per cent to 10 per cent. It is also the case, however, that both Canada and the United States are tolerating drop-out rates from high school in the order of 25 per cent and adult illiteracy rates of similar magnitude. In addition, demographic trends are such that the number of new entrants to the labour force is declining rapidly. In Canada, the number is expected to decrease by 25 per cent in the 1990s, and the figure is similar in the United States. This in itself will slow the educational upgrading of the labour force, which will increasingly be made up of older, and likely less mobile, adults.

At the same time, because of higher birth rates and immigration patterns, it is anticipated that new entrants to the labour force will increasingly be comprised of young persons from racial minority, poverty and single-parent backgrounds, especially in the United States — that is, exactly those groups with serious educational deficits and high drop-out rates. White males, for example are expected to comprise only 15 per cent of the new members of the American work force over the decade of the 1990s; racial minority members will increase their representation from one in six to almost one in three, while three out of five new members will be women (Johnston, 1987). In Canada, some of these trends are also in evidence — for example, the high population growth rate and educational deficits of native Indian, Inuit, and black populations as well as some immigrant groups.

If one accepts a "queue" theory of employment, whereby workers line up for jobs and are accepted according to their achieved and ascriptive characteristics, it is clear that

employers will be going much further down the queue than they did a decade or two ago when large numbers of new entrants were available. Furthermore, except in the low-wage portion of the service sector, they will find applicants who are far removed from having the necessary qualifications for employment. While this issue has not had a high profile in Canada, it is a subject of considerable debate and action in the United States. In Boston, for example, business leaders are taking an active role in attempting to improve the performance of inner city school systems, and nationwide, some 22 per cent of all school districts have some form of active school-business collaboration (Ford Foundation, 1989). One can anticipate that in both countries, the gap between the qualifications of the labour force and those required for available jobs will be the subject of considerable policy attention for the balance of this century.

With this background, it is perhaps easier to understand figures which indicate how difficult the last two decades have been for those with little education. Education and economic fortune have, of course, been positively related for a long time, but Cyert and Mowery (1987) report that in the United States the connection is becoming more important. For the employed population as a whole, for example, the gains from high school completion (compared with non-completion) accounted for 25 per cent more real income in 1984 than it did in 1973. Other studies, which focus particularly on the problems faced by youth since the early 1970s, report that among young males aged 20 to 24 years, real annual earned income declined by 25.8 per cent between 1973 and 1986 — but by a startling 42 per cent for those with less than high school education, as compared with 6 per cent for those who are college graduates (*The Forgotten Half*, 1988; Sum and Fogg, 1988). When other sources of disadvantage are added in, a decline in income as high as 60.6 per cent is recorded — in this case for black males with less than a completed high school education. High school drop-outs are 2½ times more likely than graduates to be without a job, 3½ times more likely to be arrested for a crime, and 7½ times more likely to be dependent on public assistance, according to data supplied by the Ford Foundation's Project on Social Welfare and the American Future (1989).

## 5. The Distribution of Jobs

In this chapter, we have outlined how the technological and related changes that were the focus of Chapter I are having a disproportionate impact on some regions of Canada more so than others, particularly if they are dependent on natural resources. Low levels of education have also been identified as being an even more important source of disadvantage than it has been in the past.

With regard to age, the problems faced by youth in the last two decades have been documented. A good deal of attention has been devoted in the academic literature to the problems faced by older workers, especially those displaced by a declining manufacturing sector. While these problems have been serious in some industries, aggregate data suggests that, in terms of indicators such as unemployment rates and earnings loss, older workers have not fared nearly as poorly as have those who have entered the labour force

in the last two decades (Sum and Fogg, 1988; *The Forgotten Half*, 1988; Myles, 1989). When they have lost jobs, however, older workers do face longer spells of unemployment — some 31.3 weeks on average for 55 to 64-year-olds, compared to an average of 22.4 weeks for those in the 25 to 54 age bracket. It is also worth noting that the unemployment rate for older workers has not declined quickly since the depths of the recession. In fact, the Canadian rate stood at 7.3 per cent in 1986, which is higher than it was in 1982 when it stood at 6.9 per cent (Statistics Canada, 1987). They are also less likely to be re-employed, to suffer a larger loss of remuneration when they do find work again, and they are more likely to leave the labour force altogether (Economic Council of Canada, 1987).

Racial minority status will also continue to be problematic, not only because of continuing racism but also because of disadvantages inherited from the past. To illustrate this point, and in the absence of reliable data on a national level in Canada, we draw on the results of our own research on Nova Scotia's Micmac and Black populations. The data for the reserve-based status Indian population reveals unemployment levels in the order of 50 to 66 per cent of the labour force in the late 1970s and early 1980s, and therefore very high rates of welfare dependency. The most common jobs that do exist are of the low-skill, low-pay variety (e.g., housing construction on the reserves, or seasonal work in motels or restaurants). Fully two thirds of the available jobs are directly dependent on federal government funding, whether for Indian organizations such as band councils or short-term, make-work projects, and thus are very vulnerable to cutbacks in federal government spending (Wien, 1986).

The Nova Scotia Black population is similarly poorly situated for making progress in a rapidly changing economy. This group also has high unemployment rates and, from the time of their original settlement in the province, has been able to find work only at the fringes of the white economy. Contemporary occupations are predominantly in entry-level and low-wage occupations such as building cleaning, domestic work, cooking or waitressing, fish and other food processing, and labouring work in construction (Browne and Wien, 1981).

Both groups experience considerable difficulty with the province's education system, as reflected in high drop-out rates, low levels of entry to post-secondary studies, lack of progress in introducing more relevant curricula, insufficient appointments of Blacks and Micmacs to teaching positions and to school board positions, and possible streaming of students into general and vocational programs rather than university preparation. In the case of the Micmac, there has been some improvement in the number of Micmac students graduating from high school and attending university, but the numbers are still well below the non-Indian proportion. Moreover, the students are almost entirely in degree programs that emphasize the arts, humanities, and social sciences; that is, the graduates are not being well prepared at the elementary and secondary school levels for science fields of study, nor for the professions that depend on a strong math and science base such as the health professions.

As we have noted, however, prominent educators and leaders of industry are calling almost on a daily basis for drastic improvements in the educational system in order to meet the competitive challenges of the new global order. It is probable that these calls for

change will be heeded, and before long will result in more demanding academic requirements and achievement standards. For racial minority groups that have at best a tenuous foothold in the educational system, rising educational standards are likely to have a disproportionately negative impact. Indeed, in Nova Scotia, representatives of racial minority organizations have already expressed their concern about proposed changes in the secondary school curriculum which would increase the number of courses required for graduation from 15 to 18. They are also worried about rising admission standards for gaining access to some of the province's universities.

In the United States, Robert Haveman and others document some success in the educational and employment achievements of some Blacks in the past 30 years (Haveman, 1988). The unemployment situation for Black youth has worsened, however, and those who grow up in single-parent families are particularly likely to fare poorly both in the educational system and the labour market. Declining employment prospects in the military are part of the problem facing Black youth, but changes in manufacturing are also important. Black men in the United States, and others with low educational backgrounds, used to be able to make the transition from school to work via the avenue of blue-collar manufacturing jobs and craft apprenticeships. But these jobs are no longer available to them:

> ... the jobs the high school graduates find are now more often in the low-paid, unstable, dead-end segments of the service economy.
>
> The problem is especially severe among young black males .... In 1974, nearly half of the employed black men aged twenty to twenty-four were in what could be considered career manufacturing jobs (blue-collar craft, operative, foreman work); the real median income of black males in that age group had risen 68 percent since 1959. By 1984 only about one-quarter of black males of that age were in such jobs, and the real income for this age group had fallen 44 per cent since 1973 (Ford Foundation, 1989).

Other data linking race to the employment problems of the new era suggest that racial minorities may also be somewhat more vulnerable to displacement due to their occupational distribution. Once displaced, they face anew the problems of discrimination in regaining employment. Thus, Blacks in the United States make up 11 per cent of the labour force, 13 per cent of displaced workers, and 18 per cent of those unemployed for a year or more (Cyert and Mowery, 1987). More detailed empirical work needs to be carried out on these issues, however.

We conclude with a few words on the impact of the new technology on women's employment. A good number of studies have been carried out, many of them dealing with particular industries or occupations such as clerical work or employment in the insurance industry (Menzies, 1982; Baran, 1985). Since computer-based technologies have spread most widely and most rapidly in the office, more so than on the factory floor, women have disproportionately experienced the effects of working with the technology. One survey estimates that, as of 1985, close to 16 per cent of all women employed by the respondents to the survey were working with computer technology, as compared to 12 per cent of all men (Betcherman and McMullen, 1986); no doubt the numbers have increased considerably since then.

While some early studies were very pessimistic in their conclusions about the displacement and unemployment that would result, more recent reports tend not to identify high unemployment as the major problem, essentially because of the existence of offsetting employment opportunities. Thus the Economic Council of Canada, in reviewing the 1971-1981 record, finds that structural changes, including the productivity enhancing but labour-displacing effects of new technology, exerted a negative influence on female employment in 22 of 39 occupational groups. These effects were offset, however, by employment growth in final demand and by changes in the "male/female mix" of jobs, i.e., women assuming a greater share of jobs within a wide range of occupations. Thus, net employment growth for women resulted in 37 out of the 39 occupational groups. This conclusion holds even for office-related occupations (Economic Council of Canada, 1987).

Looking to the future, the council's projections to 1995 indicate that there will be substantial net losses in clerical employment but also strong expansion in sales and service occupations, among many others. In the United States similarly, the Bureau of Labor Statistics forecasts net employment growth in all but 11 occupational groupings out of the 350 they examined that have more than 25,000 workers each. Of the 11 occupational groups which are predicted to suffer net employment loss, women make up half of the labour force or more in five of them — stenographers, statistical clerks, payroll timekeeping clerks, central office telephone operators, and directory assistance telephone operators. Both black men and black women are over-represented in many of the 11 occupational groups. U.S. figures also indicate that displaced female workers face longer spells of unemployment than do men. Among women displaced from blue collar jobs, for example, 37 per cent were unemployed for over a year, compared to 30 per cent for men; the discrepancy is even wider with respect to white collar jobs where it is 26 per cent versus 15 per cent (Cyert and Mowery, 1987).

While there are problems with regard to displacement and unemployment that need to be addressed, perhaps the more important focus of concern should be on the types of jobs women are finding (Gerver, 1989). While women are well represented in the high-tech sector, for example, their representation takes the form of jobs that do not pay well relative to those of men; in fact, of the 13 industries represented in the high-tech sector, only in four was the ratio of female to male earnings higher than the national average of 64 per cent. In addition, the trend toward increased part-time work, and an increasing proportion that is regarded as involuntary, is particularly noticeable in clerical, sales and service occupations where women are concentrated (Economic Council of Canada, 1990). These findings underline the importance of policy measures which will effectively reduce the unbalanced distribution of jobs between men and women, and which will improve the benefits, remuneration levels and job protection accorded to part-time work. Among the steps that need to be taken are measures which increase the proportion of women in fields of study such as engineering, computer science, and mathematics, as well as post-graduate programs more generally.

## 6. Conclusion

There is a tendency in the social policy community to believe that there is seldom much progress made in the struggle against various social ills, and that the issues remain largely the same from one decade to the next. We think both views are mistaken; considerable progress has been made in the last three decades in sharply reducing the incidence of poverty among much of the older population in Canada and the United States, for example, and in improving the socio-economic position of a large portion of the Black population in America (Haveman, 1988). Demographic trends will exert a strong influence in defining the social policy issues of the 1990s, raising, for example, the profile of older citizens and reducing concerns about the problems of youth in the labour market.

In this chapter, we have focused on the impact that rapid and widespread technological change (acting in conjunction with competitive, demographic and other causal forces) is having on employment in North America. In the process, we have identified a number of employment-related social problems that are characteristic of the new economic era, and to which imaginative social policy solutions need to be found. These include a likely increase in the displacement of workers, changes in the skill requirements of jobs and the implications this has for the less well educated portions of the labour force, sharper inequalities in earnings as a result of the erosion of middle incomes, an increase in structural unemployment, growth in the relative proportion of non-standard jobs, and the continuing influence of traditional sources of disadvantage in the labour market — that is, the persistence, and in some instances, the worsening of inequalities due to level of education, region of residence, gender, age and race.

As challenging as these issues are to resolve, the role of social policy can go well beyond the reactive, ameliorative, stance implied in this chapter; indeed, a broader and more assertive conception of the role of social policy in relation to the economy may in the end help to prevent or minimize the severity of the social problems with which reactive social policy has to contend. In the following chapters, this broader role for social policy is addressed.

## Chapter III

# Workplace Innovation

In the first two chapters, we began to obtain a sense of some of the social and organizational factors that are important if North American societies are to adapt successfully to a new economic environment. We established that three characteristics are central to that environment: increased international competition, the changing nature of product markets, and the continuing development and implementation of science-driven technology.

We continue the discussion in the next three chapters. We focus particularly on how three social systems, each with its own history, institutions and entrenched practices, and each connected to the economy in different ways, are being forced to change. Under the heading of workplace innovation, we will discuss the changing organization of work, of labour-management relations, and of relations among firms. Our discussion then moves on to the education/training and social welfare systems. A theme running through the chapter is the need for these systems to develop forms of organization and practices that provide greater adaptability and that engage and utilize human resources more fully, if they are to contribute to Canada's ability to compete in the new world order. They also need to learn how to support innovation and creativity, as well as how to integrate what have previously been separate areas of knowledge or practice.

In interpreting changes in these three social systems as responding to the new economic environment, we do not wish to imply that these systems do or should respond only to economic imperatives. The role of the education system, for example, in developing the full capacities of individuals, goes well beyond preparing them for a life of employment; the goals of social welfare systems include objectives such as the achievement of

security, equality, or the realization of community, and these objectives are not always seen as being compatible with the demands of economic efficiency. Nevertheless, these social systems obviously respond in part to economic imperatives, and they need to do so if they are to obtain public support. The ways in which they seek to realize their larger objectives may also be conditioned by the changing economic environment.

## 1. Workplace Innovation

As we look at the different institutions and practices that need to be reshaped, changes in the workplace — including the practices of management and labour, the organization of work, labour-management relations, and relations among firms — seem more advanced than other areas examined below. At least there are some models to be followed, and some impressive examples of new practices are being pursued by some firms and labour unions. However, there are also significant obstacles to the wider diffusion of "best practice."

The need for new practices is being driven in large measure by the causal forces outlined in the first chapter, as this review of the Canadian experience illustrates:

> ... by the mid to late 1970s, the major focus of workplace innovation in Canada had begun to shift. Problems in the workplace were becoming much more acute. Both Canadian manufacturing and primary resource industries were beginning to be hit hard by international economic conditions, not the least of which was tough foreign competition. In reaction to the need to be more competitive, managers were starting to seriously re-examine their organizations as a whole .... Changes were developing in world market structures and in technological capabilities that were both pushing and enabling organizations to focus much more on quality, flexibility and integration. In addition, by the early 1980s it had become clear that technological upgrading would have to play a major role in any attempt on the part of Canadian industry to remain competitive. Hence, for the first time, by the 1980s the nature of technology and technological change became a significant issue with respect to workplace innovation (Mansell, 1987).

How, exactly, are these factors linked to workplace organization? Clearly the kinds of changes we have discussed in the competitive situation of North American firms, and in the markets for which they produce, create a need for work organizations that are more adaptable to changing circumstances, more capable of increasing total system effectiveness in such dimensions as cost, productivity and quality, and more engaged in continuing innovation through the adoption of new technology and the improvement of existing processes. Implementing these objectives has implications for the manner in which work is organized. The prevailing form of work organization, in place for the past century and geared to a more stable environment with more mechanical and slowly changing technology, is no longer appropriate. It is not adequate to separate conception from execution, to decompose tasks into small, simple steps, to rely on rigid job descriptions. It does not serve to rely on a poorly educated, unskilled or semi-skilled workforce and on extensive managerial/supervisory control of workers. As noted in the first chapter, all of these elements are important components of the "Fordist" model of organizational efficiency, as modified by the scientific management approach advocated

by Frederick Taylor (Brooks *et al.*, 1986; Mahon, 1987). All of these elements are now in question because of the significant changes taking place in the economic environment.

While the pressures for change in workplace organization act principally on management, clearly they also have an impact on unions, who have also brought their agenda for change to the bargaining table. They, too, have been cognizant of the declining competitive position of many Canadian and U.S. industries, with resulting loss of jobs for their members. They, too, have had to come to grips with issues such as the need to retrain their members or consider new forms of work organization. Some have taken the position that the future of their industry, of their jobs and communities, are too important to be left solely to management. In addition, they are being pushed in many cases by a more educated labour force seeking more variety, challenge, autonomy and involvement in their work. The issue of workplace innovation is controversial within the union movement, however, as we will see below.

What, then, are some of the workplace innovations that are being implemented? Mansell provides a good overview of the Canadian situation, but other sources confirm the existence of similar trends and experiments in the United States (see Kochan, Katz and McKersie, 1986, and Kochan, 1988). Some firms have adopted almost all of the following measures as a package (sometimes referred to as the socio-technical systems approach) while a much larger number have limited themselves to one or two elements. A recent report suggests, however, that the new forms of workplace organization will necessarily come to prevail in most factories in North America during the course of this decade (Lush, 1990b).

Clearly an important element in the new structures is the attempt being made to involve workers more fully, creatively and responsibly in the production process. At one level, this takes the form of participative structures such as quality control circles, employee involvement programs, and joint committees to design and implement quality of working life initiatives. A further step is to give responsibility to teams of workers for the production of a department or plant. For example, at the Shell Canada refinery in Sarnia, semi-autonomous, self-regulating work groups have been established; six process teams and one team of journeymen-craftsmen run the entire plant (Mansell, 1987). With these kinds of arrangements, responsibility is shifted to the plant floor from the office, and to production workers from management. Thus, workers may take responsibility for tasks that include scheduling production, ordering supplies, quality control, maintenance, even in some cases the hiring and firing of other workers. The 1986 Canadian *Working with Technology* survey reported that 10 per cent of the responding firms had experience with semi-autonomous work groups, while almost 30 per cent declared that they had joint labour-management committees of one kind or another (Betcherman and McMullen, 1986).

A second innovation, closely related to the first, is training workers to have multiple skills so that each worker in a team can perform all the functions required of the group and can obtain variety in work by changing tasks from time to time. The new forms of work organization are also characterized by reduced divisions created by functional

specialization, for example between design and production staff, between the latter and the sales division, or between maintenance and operational functions.

Clearly these kinds of workplace changes also have implications for the managerial staff. One implication of using the new information technologies and shifting responsibility to work teams is that fewer middle-level managers and supervisors are required. Some other office functions are also reduced or transformed. For example, IBM Canada reports that it has eliminated almost all secretarial jobs and now has only three "information specialists" for 1,050 employees. Where 37 managers once controlled the workforce, there are now only seven (Lush and Rowan, 1990). Also, changes take place in the role of management, which at the more senior levels is freed to concentrate on long-range planning and integration functions; at the lower levels, managerial staff may perform more of a facilitative role within the context of work teams or problem-solving groups.

A final aspect of workplace reorganization is the heavy emphasis that is placed on training and retraining. Stimulating and supporting continuous learning is required not only for individuals but for groups and for the organization as a whole, so that it can adapt to a complex and constantly changing environment. However, the cost of training is substantial, and companies are worried about the "free rider" problem — that is, investing in employee training only to see their workers move to jobs with their competitors. Unions for their part are interested in obtaining training that is basic and long term, rather than relevant only to a specific firm. They are also concerned about less adaptable workers who have difficulty learning the new skills that are required. Warrian (1989) reports, however, that the concerns of both parties can be alleviated through labour-management cooperation at the sectoral level. He suggests that the joint human resources committee of the Electrical and Electronic Manufacturing Industry may serve as a model for the future. Here, the establishment of a sector-wide education fund is proposed that would permit vocational retraining and upgrading, paid educational leave for workers, and a union education program. Agreement has also been reached on a code of principles for the implementation of technological change.

While the introduction of these kinds of changes in the workplace are understandable from the point of view of achieving greater quality and flexibility, they are also sometimes linked to the requirements of more automated production systems. High-tech production systems operate largely automatically, but they do require human intervention when stable conditions are upset. Under such circumstances, there are no pre-established solutions or rules — the situation requires a rapid diagnosis and response, and does not leave time for extensive consultation up and down a hierarchy. To perform this role effectively requires an understanding of the whole system, and collaboration among workers due to the complexity involved and the integrated nature of production. Since decisions have major consequences, a committed, engaged and properly educated workforce is required (Brooks *et al.*, 1986; Mansell, 1987; Noyelle, 1987; Leckie and Newton, 1989; Hirshorn, 1988; Kazis, 1989).

## 2. New Patterns of Industrial Relations

The workplace changes we have discussed also have important implications for the nature of industrial relations, including collective agreements in situations where the workforce is organized. Consonant with team work, multi-skilling, and the changing nature of tasks to be performed, there is a tendency for detailed and specific job definitions to be abandoned. In addition, some firms have moved to a payment system whereby all of the workers in a particular production unit earn the same wage in recognition of the fact that they shift readily from one type of task to another. In view of an uncertain environment and the desire to engage the workforce in productivity improvements, fixed wage adjustments are being supplemented by contingent payment systems. Here, if a firm does well, workers receive a share of benefits through gain-sharing or profit-sharing measures. Dobson (1990) comments on the pattern in the United states and recommends its extension to Canada:

> During the 1980s, lump-sum payments have replaced wage increases as important features of compensation agreements affecting 70 per cent of unionized workers. At the same time, profit-sharing and employee stock ownership plans (facilitated by special tax treatment) have become more popular. These innovations increase compensation flexibility by immediately sharing profits in good times and providing a channel to reduce costs — rather than jobs — when product markets weaken.
>
> Employees also become more aware of the firm's and industry's economic fortunes. Such innovations are appearing in the manufacturing sector in Canada, and they are badly needed in the resource industries, which experience large swings in profitability when world commodity prices and exchange rates change. Employers must use common sense before introducing such schemes. They cannot expect workers to share the risks during adversity unless they have built trust and shared the profits in the good times....
>
> Such innovations, which share the costs of change as well as the benefits, should be high on our economic agenda. Wide swings in unemployment could be avoided by making the compensation process more flexible and the labour force more productive. Canadian management must provide more leadership on these issues; labor's receptiveness to change and government's facilitation of adjustment are crucial for a less inflationary, more flexible and competitive Canadian economy (Dobson, 1990).

There is also a tendency for pattern bargaining (whereby agreements in some leading firms and industries are spread to others) to break down as more agreements are determined on the basis of competitive conditions affecting particular plants. Collective agreements composed of detailed rules and regulations designed to cover all eventualities, and grievance resolution based on these provisions and on precedents, are giving way in some firms to contracts that specify a few principles or guidelines and that encourage ongoing discussion and the substantive resolution of problems by labour and management. Finally, collective agreements are now much more likely to contain provisions governing technological change, covering such matters as early notification, joint discussion about the selection and implementation of new technology, restrictions on labour displacement, and so on. The *Working with Technology* survey reveals that some 40 per cent of responding firms report contract negotiations over technological change since 1980; 30 per cent cover early notification (Betcherman and McMullen, 1986).

Piore and Sabel have observed that a number of the new characteristics becoming more widespread in the workplace are patterns that have always been characteristic of craft-based models of shop floor control. These include the emphasis on more labour-management collaboration, on wages linked to skill levels rather than to the job, and on substantive grievance resolution. For these and other reasons (e.g., the changing relationship of workers to technology) they conclude that what we are witnessing is a return to craft principles of work organization rather than a movement to new forms that have not prevailed in the past (Piore and Sabel, 1984).

Examples of companies that have gone the farthest with respect to workplace innovation include, in Canada, Shell Chemical, Pratt and Whitney, Canadian General Electric, Westinghouse and Kellogg's. In the United States, innovation is occurring in specialty steel and mini mills, in chemical plants, in computer-related firms such as IBM, at Ford, Xerox, and a host of other firms.

Thus some headway has been made, but substantial obstacles to change remain. Traditions ingrained in both management and labour relating to what have been the defining characteristics of the organization of work and labour management relations — the division of labour, separation of functions, management rights, job control, a history of conflict and opposition — will not give way easily. These traditions are reinforced by related institutions which are also difficult to change, such as those involved with collective bargaining and labour relations, labour legislation, and the educational system which socializes each of the parties to their respective roles. Mansell (1987) argues that the necessary changes will not come about without supportive changes at the societal level as well. She includes in her remarks the need for new forms of labour/management/government relations to be modelled on the national scene as well as at the local level. Also, appropriate changes in social policy would facilitate change, for example new arrangements to distribute the wealth resulting from greater productivity, improvements in the structure of social benefits, steps to achieve greater economic and social democracy, and so forth.

Clearly there is resistance among management ranks to steps that include laying off middle management, reducing control and supervision, and changing managerial roles. There is also considerable debate in the union movement about the proposed changes. Some major unions in both Canada and the United States support many of the proposed changes; these include the steelworkers on both sides of the border, the United Auto Workers (UAW) in the United States, and the Energy and Chemical Workers in Canada. Others are not so sure. For example, the Canadian Auto Workers (CAW) is very skeptical (Robertson, 1990; Gindin and Robertson, n.d.). In a recently prepared statement on the reorganization of work, the union questions management motives in promoting the importance of achieving competitiveness and the promise of a new partnership between workers and management:

> At the center of the management agenda is the ideology of "competitiveness." Even without the rest of the management package, we have already lost if "competitiveness" is the agreed starting point. In subsequent discussions or negotiations based on competitiveness, the bottom line will always revert to "what's good for the corporation?" So it is critical that we reject competitiveness as the dominant criterion guiding our actions.

> Rejecting "competitiveness" is not the same as rejecting the importance of quality and productivity. We understand the value of quality products for other workers, consumers and ourselves.... But competitiveness is something quite different: workers can produce high quality products, can be very productive, and can even show restraint in their wage demands — yet their competitiveness can be declining. The reason is that "competitiveness" is a relative concept: no matter how well we do, if others do it still cheaper, or if the Canadian dollar is artificially high (as it is in Canada because of the high interest rate policy) then Canadian workers will be less competitive no matter what else we reasonably do.
>
> Accepting "competitiveness" puts us on a treadmill, a rat-race we can't win. It means trying to undermine fellow workers in other Canadian facilities and workers in other developed countries. It forces us to compete with countries whose living standards remain below where we were decades ago and it leads towards comparisons with regimes that keep standards low by denying basic human and trade union rights....
>
> The issue we have to address is not whether there are "teams" — there is nothing inherently bad about workers working together and there may even be some advantages. Nor is the issue "multiskilling," whether or not there is job rotation, or the exact number of job classifications. Each of these can be relatively innocent in and of themselves, (we may even want to shape them in our favour), or they can be part of a dangerous process leading towards concessions. The issue is the context of these changes, and it is this context — what else management is doing and how they are structuring work groups and using multiskilling, rotation, or fewer classifications — that we must constantly analyze and guard against (Canadian Auto Workers, 1990).

The statement goes on to specify and reject some ways in which work reorganization has been implemented — for example, the pressure for continuous improvement leading to work intensification and more stressful jobs; the development of alternative workplace-based structures and employee-based programs which circumvent the union; or the use of peer pressure in team work units to discipline and regulate the behaviour of fellow workers.

The CAW response to the reorganization of work illustrates that the implementation of workplace innovations will not be without difficulty. How readily change is accepted will depend a great deal on how the new measures are implemented and for what purpose. It will also depend on working out new understandings and trade-offs. These could involve an offer of employment security in exchange for within plant flexibility in the allocation of work, involvement of workers in measures to enhance productivity but having labour share in the gains, accepting new technology but limiting its employment displacing effects, and so forth.

## 3. The Changing Relationships among Firms

In concluding this section on workplace innovation, we want to say a few words about changes that are taking place not only within firms, affecting management and labour, but also in the relations among firms. It appears that the new environment is pushing companies to work together in a more cooperative manner, at least for some purposes and in some industries. Heaton (1989) explains that in the private sector, the old view was

that competition breeds innovation whereas collaboration decreases it. Opinions are now shifting to the view that cooperation in the private sector, at least in some industries, is essential to achieve a certain scale, to enter certain markets, or to face a common external competitor. It is no longer possible (in view of how the competition is organized, the scale and complexity of the R&D effort required in many areas, and the risks involved) for any one company to go it alone. These cooperative arrangements take a number of different forms, the most visible of which is the development of consortia in both Canada (where PRECARN, for example, groups firms with an interest in artificial intelligence and robotics) and the United States (where SEMATECH, for example, groups firms in the semiconductor industry). While cooperation is usually restricted to joint research and development projects — indeed in the United States some 200 applications for cooperative R&D have been made — there is also some common action taking place with regard to the standardization of technologies and in the field of education and training. Groups of companies are beginning to discuss joint manufacturing initiatives as well, although these are likely to have difficulty with anti-combines legislation.

The road to cooperation has been difficult:

> The pioneering consortia have been struggling to write the rules for cooperation. As they attempt to build bridges where there were once walls, they strive to put aside competitive instincts and craft new models of interaction. They have sought to meld corporate cultures, to set a mixture of long-range and short-range goals and to attract top-notch researchers (Boston Globe, 1989).

In the process, they have run into problems such as getting companies to release good people, in deciding whether foreign companies should be allowed as members, in determining whether a company's research should be carried out through the consortium or in-house, and in transferring technology out of the consortium to member companies.

In addition to consortia for R&D, companies are also reducing risk and sharing development costs through joint manufacturing projects, often involving companies from two or more countries. A good example is the recently announced project launched by Dofasco in Hamilton, Ont., to produce galvanized steel for the auto industry. In addition to cost sharing among the Japanese, American and Canadian partners in the joint venture, the Japanese steel company will supply the advanced technology to be used in the galvanizing operation.

Sabel (1988), too, describes cooperative relations among firms located in regional industrial districts such as the high-tech firms in California's Silicon Valley and along Route 128 in Boston, textile-related firms in Northern Italy, and metal working firms in a region of Sweden. He argues that, in a time of heightened competition, fragmented markets, and production to meet specialized and changeable needs, regional groupings of small firms are flourishing. They are strengthening their position by collaborating to secure credit or to buy raw materials; supporting common research institutes, marketing agencies or vocational schools; and policing their members to ensure that firms keep to their specialties and do not seek to undercut the pay scales and working conditions of the community.

Finally, new relations are being developed in some industries among firms and their suppliers and customers. Womack (1989), for example, describes the old pattern in the automobile industry as one where suppliers were treated in the same fashion as production workers — marginal elements in the production system utilized in boom periods and jettisoned in the troughs. Under these conditions, and in circumstances where quality was not a high priority, cost was everything. There was little need for innovation due to a stable and expanding market, and neither was there an incentive for assemblers to increase the skill level and technology of a constantly changing group of suppliers. The assemblers kept design and engineering know-how in-house in order to increase their bargaining position and to protect themselves in the event that the supplier went to the competition.

As market and competitive conditions changed, however, and as quality and innovation have become more important objectives, relationships with suppliers have also had to change. Typically, their number has been reduced, more long-term and stable relationships have developed, the level of trust and information sharing has increased, and suppliers are increasingly looked upon as partners in a collaborative effort to produce a high-quality product. A particularly close relationship between firms and their suppliers is demanded by the just-in-time delivery system, by which is meant the production and delivery of goods to a receiving firm just in time for its use (the system is also used within firms to describe the arrival of components at each station of the production line). This form of supply delivery drastically reduces the need for inventory and warehousing on the part of both the sending and receiving firm. It also saves hours of material handling time, and improves the quality of goods supplied because they are handled less often and stored hardly at all. This system which, according to a recent article, has spread through most of the auto parts system in Canada, fortifies some of the trends in inter-firm relationships mentioned above. For example, the close interdependence and complex negotiations it requires between firms means that companies using the system reduce their suppliers to just one for each part. Longer-term contracts result, and mutual problem solving occurs in the context of a more trusting relationship (Lush, 1990a).

Underlying these changed relationships is the recognition that it is not only goods and services that flow among suppliers, assemblers and customers, but also information that can improve quality and innovation. Some research suggests, for example, that users are at least as important as manufacturers themselves in originating ideas for product development (Dertouzos, 1989). Thus, in the present context, firms are not well served by maintaining arm's-length relationships with their customers and suppliers (Womack, 1989; Sabel, 1988; MacMillan, 1988).

## 4. Conclusion

The kinds of workplace innovations we have been describing in this chapter exemplify how firms are responding to a changing economic environment. They have, of course, always had to cope with the ups and downs of the business cycle among other sources of

instability, and in the past they have developed mechanisms for insulating themselves from disruptive circumstances — for example, the use of a casual component of the labour force that can be hired and fired at will, sub-contracting arrangements, or leaving the more unstable portions of the market to smaller, more flexible firms. No doubt these mechanisms will continue to be used. Under the more uncertain, competitive conditions of the 1990s, however, it does not appear to be adequate to respond only with employee-related forms of flexibility implemented at the margins of the firm. New, more flexible forms of workplace organization and more adaptable employees are being developed, and these are transforming the firm as a whole, including its external relationships.

Social policy, broadly defined and imaginatively constructed, could contribute positively to these transformations. In our view it would be framing the discussion too narrowly if the social policy debate were to be limited simply to a discussion of labour force flexibility, and of worker adjustment and mobility programs. While necessary, these tend to be reactive strategies, implemented when a plant has had to close down because it has not been innovative, adaptable or competitive enough as an entire organization. The real challenge for social and economic policy is to prevent this from happening in the first place.

While the onus for bringing about changes in the workplace lies principally with management and labour, there are a range of public policies and programs that are certainly relevant to the debate. Governments can facilitate restructuring, for example, by the initiatives they take in education and training; by the parameters they set for the conduct of collective bargaining and labour relations; by the incentives they provide or the constraints they place on the kinds of economic restructuring that takes place through provisions such as the minimum wage or the conditions governing lay-offs. Governments can develop programs that would support small producers in a region or industry in their efforts to develop cooperative, not competitive, mutual relations *vis-à-vis* the market; they can encourage the dissemination of models of best practice of workplace reorganization.

Kochan and McKersie argue, however, that it is essential to begin with a clear vision of the objectives to be achieved through economic restructuring, and to proceed from there in the development of appropriate policies in the area of industrial relations and human resource development. It is in this context that successful, lasting social policies can be developed:

> While current debates over competitiveness are dominated by questions of how to reduce budget and trade deficits, the key long term objective for improving the performance of the economy while simultaneously improving standards of living must be to improve productivity. Productivity improvements are necessary not only to achieve economic growth and improved trade balances but also to provide the resources needed for improving workers' real earnings and standard of living.
>
> Productivity improvement, at least as traditionally defined in terms of output per labour hour, is a necessary but not sufficient condition for improving the long run competitiveness of American industry. Equally important to long term competitiveness are the quality of goods and services produced and the innovative capacity of American enterprises. But in the past too often productivity, quality and innovation have been viewed as tradeoffs and only recently has empirical evidence, largely from the auto

industry, begun to demonstrate that it is possible to improve both quality and productivity and innovation simultaneously. This has been accomplished by strategies that effectively integrate advances in technology and manufacturing processes with innovations in human resource management and industrial relations policies. The evidence from the manufacturing sector as well as increasing evidence from the heaviest users of information technology in the service sector is that technology alone has not, and will not, produce the productivity, quality nor innovation results needed for the economy of the future. Instead, the full benefits of new technology are achieved when human resource considerations (worker skills, participation, and employment adjustment concerns) are integrated into each stage of the technological innovation process. Therefore, to perform well on these dimensions will require government, management and labour policies that encourage the effective use of technology and human resource management strategies (Kochan and McKersie, 1989, p.231).

## Chapter IV

# Education and Training

As with the workplace, the transition to a new economic era has significant implications for the education and training sector. Indeed, some of the workplace and related changes we have discussed above require a transformation in both the process and the product of the education/training system. Some of the themes of change are also similar — for example, the search for new forms of institutional flexibility and responsiveness, the demand for higher levels of achievement, the need to reduce specialization and integrate several fields of learning, and so forth.

Yet, while the issues are becoming clarified and while there are some interesting experiments being carried out, the United States and Canada are lagging to a remarkable degree in comparison to what is needed and in relation to what other countries are doing. The educational superiority of the postwar period has long been eclipsed in many, if not all, dimensions. This comes at a time when the importance of education and training is clearly increasing, especially in the context of attempting to build a high productivity, high-wage, technologically sophisticated economy. The Premier's Council's impressive report, *People and Skills in the New Global Economy*, makes the argument clearly:

> . . . we cannot cling to low-wage, low value-added activities where we have no competitive advantages, but must move into the high value-added, high-wage goods and services wherein lie our best hopes for prosperity over the long term. This shift will require continuing improvements in the productivity of both capital and labour.
>
> A critical determinant of whether we can make the transition to a higher value-added economy will be the education, skills, ingenuity and adaptability of our workers. They must be prepared for work which will demand the sophisticated knowledge and talents that are the trademarks of a truly developed nation. Our raw materials, our

> infrastructure and our capital will not be utilized to their fullest without the enhancements that a competent, innovative and adaptable workforce can bring to such advantages (Premier's Council, 1990).

The links between investments in education/training, productivity improvements and higher earnings have long been recognized by economists, and have been advanced most vigorously by the human capital school since the 1960s. As Kazis (1989) points out, however, the posited relationships have not always materialized empirically (recall, for example, the dual labour market critique of the 1970s), and insufficient attention has been paid in the analysis to variations in the quality and type of education, as opposed to its length. In addition, it is not clear from the results of human capital analysis just how further education or training actually generates skills and attitudes that improve firm productivity.

In fact, the relationships among these variables is both complex and multidimensional. Recent case studies that compare work organization in comparable firms but across countries have been more useful because the results reflect different national approaches to the provision of education and training. From these kinds of sources, it is becoming clearer in what ways education and training contribute to productivity. To begin at the level of the firm as a whole, one can make the obvious point that, as technology becomes more complex, a higher level of education and training is required for many aspects of working with the technology — its design, installation, maintenance, repair, and so forth. It has also long been recognized that education and training contribute to the adoption of new technology. Further, a well educated and technically trained work force exerts an important influence on suppliers of new technology in terms of being able to specify exactly what is required and being able to make the new technology work. For example, in a study of the U.S. machine tool industry, March (1989) makes the point that one of the reasons for weak performance on the part of U.S. machine tool manufacturers is the lack of strong user pull from customers for more innovative products, in sharp contrast to the situation in what was previously West Germany. Case studies also suggest that education and training facilitate organizational change. For example, comparisons of British and German firms reveal that a more highly educated workforce in Germany has permitted a higher degree of decentralization of authority for decisions to the shop floor, making it possible to make do with one less level of hierarchy between the shop floor and the plant manager. Also, if managerial staff have sound technical training, the combination of managerial and production tasks and teamwork is facilitated (Kazis, 1989).

At the individual level, education and training, especially if it involves learning general knowledge and skills, contributes to worker flexibility. This permits greater adaptability of employees within firms, as well as a greater capacity to find new employment in the event of layoffs. This is supported by data which show that unemployment rates vary inversely with level of education. In Canada, for example, those with eight years of education or less typically have unemployment rates that are 2½ times greater than those with university degrees (*Adjusting to Win*, 1989), and the importance of this connection has been increasing over time (Economic Council of Canada, 1990).

Finally, studies of adult and continuing education find that a good education/training grounding is an important factor in ongoing learning. The motivation and ability to learn is becoming increasingly important as firms emphasize continuing innovation and adaptation to rapidly changing circumstances.

Given the importance and the multi-faceted nature of the relation between productivity and education/training, it is worthwhile taking a brief look at the state of both general and vocational education as measured against the requirements of the new economic environment. Some issues seem to cut across several levels and types of education. A good example is the rigidity of educational institutions, whether one refers to the lack of adaptation of secondary schools to the needs of adult and single-parent learners, the years that it takes universities to make even small changes in their curricula, or the extent to which community colleges and vocational schools have failed to keep up with new technology and the rapidly changing training needs of their constituencies. At all levels, too, educational institutions need to come to grips with such issues as reducing the rate of school leaving before graduation, improving connections between schools and the workplace, and meeting the demands of more equal access to programs (and more relevant curricula) for groups such as women and racial minorities.

## 1. Elementary and Secondary Education

Hardly a day passes in the United States without a television special, a newspaper series or a foundation report on the state of elementary and secondary education in the country. There appears to be less outward concern in Canada, although the situation is empirically not much better, as we shall see below.

There are perhaps two kinds of issues that merit discussion. The first of these is to clarify in what ways the new economic era demands a different kind of learning and thinking than has been common in the past, and how this educational challenge can be met. Again, the Premier's Council is helpful in specifying the basic educational requirements of a high value-added, high-wage economy:

> As the economic order changes, new ways of thinking and new criteria of achievement must be developed .... Tomorrow's work force will not be composed of individuals with highly specialized skills and knowledge, performing variations of routine tasks on assembly lines, in offices, hospital wards or classrooms .... In the new global economy, less importance will be attached to the ability to memorize factual knowledge and more importance will be placed on the ability to retrieve it from mechanical sources. There will also be increasing emphasis on the role of analysis, synthesis and evaluation of information, since the fruits of such thought will help solve problems in real settings. Graduating students will have to feel comfortable and confident in a world that prizes the skills of decision-making, problem-solving, critical thought, and creativity above the ability to regurgitate disconnected facts in the fashion of trivia games.
>
> The new global economy will also emphasize the need to integrate mental and manual skills in our encounters with new technologies. The most efficient technological workers will not be those who specialize in routine use of machines, but those

> who interact creatively with them. We not only need to know how to use the machines that facilitate production, but also how to adapt and maintain them for better use. We are surrounded by mysterious gadgets in our everyday life and yet most of us are reluctant or unable to intervene in their maintenance. Our school learning too often separates our scientific learning from any practical application to everyday technology. School curricula must help demystify the gadgetry that surrounds us in preparation for a workplace in which we will work knowledgeably with the machines we will find there.
>
> Team work in the workplace is also increasing in importance. And yet our schools too often set students to work alone and competitively on isolated tasks, as though the assembly line and the traditional division of labour were still the models of production and office work we were preparing our students to enter. Work in this cooperative climate will place increasing emphasis on small group projects that combine skills, that require the organization of multiple tasks, that tie the group's own evaluation of work accomplished to the improvement of process and skills at the group level. Group responsibility for the contribution of each of its members is a far surer buttress against individual failure than assigning individuals to groups pursuing simpler skills (by placing them in lower streams) or increasing the value accorded to lesser achievements (by lowering standards) (Premier's Council, 1990).

The point is further made that schools need to provide a solid foundation for the continuous learning of their graduates.

While the above quotation gives some indications of how educational processes can be changed to emphasize teamwork and the integration of mental and manual skills, it is less clear how the school system needs to change so that it can contribute to the development of adaptable, creative, problem-solving individuals who can bring a critical perspective to the work that they do. The Premier's Council believes part of the answer, however, lies in the effective teaching of foundation subjects such as language, mathematics and science. It argues that, together, these "constitute the basics upon which critical thought and the higher order skills are built. The goal of education is to develop the broad thinking skills and the knowledge base by which further learning and more sophisticated applications of that learning can be advanced." In the case of language, for example, the council argues that most of the population can master the basics (listening, speaking, writing and reading)

> but the higher order skills — effective communication and the more complex linkages of language and thought implied in effective critical analysis — are not always fully developed. The integration of these communication skills and linkages into the basic listening, speaking, reading and writing skills is an essential part of the concept we currently hold of literacy. These communication skills and linkages are becoming increasingly important in workplaces dominated by smart machines and by cooperative decision making (Premier's Council, 1990).

In addition to discussions about what needs to be learned, and how it needs to be taught, the debate at the elementary and secondary school levels is also preoccupied with certain effectiveness and organizational issues. For example, both countries have identified high drop-out rates as a problem, as a result of figures which show that, for a given year, only 72 per cent of the age 17 cohort is still in school in Canada, compared to 87 per cent for the United States and 94 per cent for Japan (Economic Council of Canada, 1990). Early school leaving, now and in the past, also contributes of course to high illiteracy rates which are also a source of concern in an economic context in which fuller use of human

resources is demanded. Data from 1987 shows a functional illiteracy figure of 24 per cent for the Canadian population as a whole (17 per cent among high school graduates), and 20 per cent for the U.S. population (*Adjusting to Win*, 1989). These data are usually accompanied by other figures showing the inability of large portions of the population to complete fairly basic tasks needed for daily life. Added to this are the continuing problems faced by students from minority-group, low-income and single-parent backgrounds to have their special needs met. Thus both employers and institutions at all levels of the educational system need to allocate substantial resources for remedial work.

A notable feature of the educational systems of both countries is their extreme decentralization. Neither national government has a strong constitutional nor *de facto* presence in education. And while in Canada the provinces exercise considerable authority (thereby reducing at least within-province variation), in the United States some 15,000 school boards contribute substantially to the wide dispersion and low average performance of U.S. school graduates. The situation in the United States is described in one report as being more like that of a developing country, where "the elite is relatively well served and educated, but education for the average student is less than adequate and for many at the bottom school is little better than marking time" (Kazis, 1989).

The problems of the system are well illustrated by performance levels in mathematics and sciences, areas of study that are assuming greater importance in a technology-based, competitive world environment (*Everybody Counts*, 1989). While the use of comparative cross-national data is beset with difficulty in view of the diversity of educational systems being compared, available figures do reveal that for some age groupings, math and science scores have declined continuously since 1969 in the United States. Canadian students seem to do quite well until the age of 14 or so, but by the time students reach grade 12 or 13 in both Canada and the United States, their performance in subjects such as biology, chemistry and physics places them within two or three countries of last place in a 13-country comparison (Kazis, 1989).

Apart from performance, there is also a problem of numbers. A recent report from the U.S. National Research Council documents a 50 per cent decline in the proportion of top high school seniors who express an interest in math or statistics — although the proportion for science and engineering has remained constant (*Everybody Counts*, 1989).

While the issues are becoming more clearly defined, and while some answers to policy-relevant questions are being found, not everyone is convinced that we have the knowledge base to determine what steps need to be taken. Indeed, the Economic Council of Canada has recently concluded that more research is urgently needed:

> The usefulness of any policy dialogue on education and the future quality of Canada's workers will depend . . . on the availability of better empirical analysis. Hard and well-focused research is needed on how Canada's education system can prepare a high-quality, competitive work force, capable of adapting to a rapidly changing knowledge-based economy (Economic Council of Canada, 1990).

## 2. University Education

Some universities in Canada and the United States are recognized to be among the best in the world, and indeed they provide an excellent education to students from all parts of the globe. Nevertheless, there are some issues that need to be addressed, particularly with respect to undergraduate education. Again, there is much more debate and experimentation in the United States than in Canada even though the problems are by and large similar.

Some of the required changes are straightforward and affect some parts of the university more than others. With regard to management education, for example, curriculum reform is urgently required in order to place greater emphasis and provide better education in fields such as the management of technology. It is clearly no longer advisable for senior management to be uninformed about technology: "While it is not necessary for every manager to have a science or engineering degree, every manager does need to understand how technology relates to the strategic positioning of the firm, how to evaluate alternative technologies and investment choices, and how to shepherd scientific and technical concepts through the innovation and production processes to the marketplace" (Dertouzos, 1989). As an example, the Sloan school at MIT has begun a two-year master's program in management which combines training in management and science/technology, drawing in part on the resources of the university's Faculty of Engineering. There is similarly a need for more attention to the management of human resources and to the preparation of students for management in a global, cross-cultural context.

In other disciplines, the changing environment is challenging the utility of theoretical frameworks that now appear less relevant in explaining contemporary phenomena. Marxist theory is now more widely questioned even by scholars on the left, and economists of all shades are beginning to wonder whether the neo-classical paradigm, with its emphasis on holding technological change and other system parameters constant, can usefully interpret a society where these parameters are changing rapidly and with profound consequences.

The knowledge explosion of the last several decades is also placing enormous pressure on the undergraduate curriculum, especially in the sciences (Bok, 1987). While pressure mounts at many universities to extend the length of programs, an alternative solution that recognizes that knowledge will continue to expand rapidly puts the emphasis on teaching students, while they are enrolled in undergraduate degree programs, to develop the motivation and skills for ongoing and largely self-directed learning. That is, it is not just a matter of encouraging students to make a habit of attending refresher courses, but also a matter of teaching them how to learn, both on their own and in a group context. Some suggest that the firm of the future will be as much a learning institution as one that produces goods and services, hence the relevance of an emphasis on self-directed learning. A related reform is to place more emphasis on enhancing cooperation among students, through having them undertake team projects or through more of a team approach to the organization of instruction. The latter course of action, involving groups of students who take the same classes together and whose courses are coordinated by their teachers who also meet together is recommended in a

recent report on adolescent education prepared by the Carnegie Council on Adolescent Development. Similar approaches are being proposed for undergraduate university education.

Perhaps one of the most difficult issues facing undergraduate education is the question of what to do about the extreme specialization that now exists among the various branches of knowledge in the university, and the barriers this poses to interdisciplinary study, to the integration of knowledge and to the achievement of breadth in undergraduate education. We have already noted the divisions and compartmentalization found in the workplace, divisions which need to break down but which are reinforced, if not created, by the kinds of education received by technical and managerial staff. While undergraduates are typically required to select their courses from a range of options that cut across the humanities, sciences and social sciences, the problem with existing distribution requirements is that, in a sense, there is too much choice and not enough structure reflecting a clear vision of what is desirable — students end up with courses that do not effectively bridge the different ways of thinking represented by different fields of study. As Ernest Boyer (1987) puts it,

> . . . looking closer, we discovered that the natural sciences requirement can be met with courses that range from agricultural engineering to genetics to health education. In humanities, students can take anything from architectural history to Italian to philosophy. In the social sciences, course choice includes dozens of options, from political science to sociology to economics.
>
> Each course, standing alone, may be first-rate. But it stretches the imagination to say that a blend of Italian, health education and economics — or most of the other randomly selected combinations we observed — offer a general education worthy of the name . . . . This cafeteria-like arrangement offers a smattering of courses. Students move from one narrow department requirement to another, rarely discovering connections, rarely seeing the whole.

There are a number of reasons why breadth in university education is now receiving more emphasis, even though few institutions have figured out how to achieve it effectively. Those who teach in the physical and natural sciences are increasingly aware, as we have seen, that science and technology — their development, adoption, and use — are strongly affected by social, political and organizational factors. The challenge, therefore, is not only to develop technology but to do so in such a way that is acceptable and that meets society's needs and concerns (Wilson, 1987). The realization is also growing that it is not enough for those engaged in science and technology simply to put the tools on the table for others to use; there is a need to go beyond technical considerations to the social, environmental and ethical concerns that are implied by existing and new technologies (McVicar, 1987). A final consideration is the realization that creative and design capacities can be expanded by exposing students of the physical and natural sciences to the social sciences and humanities, where they can be exposed to modes of thinking that are not so tied to the quantitative, analytical approaches of the hard sciences. This notion builds on the observation that "truly creative scientists and engineers have strong parallel interests in the arts and humanities" (Gray, 1987).

While important, the shift to a more satisfactory broadening of the undergraduate curriculum is extraordinarily difficult to accomplish. It is not just a matter of breaking

away from tradition, but also recognizing that specialization is important for achieving depth, and at more senior levels, for making advances at the frontiers of science. Hence, there is a reluctance to reduce course requirements for the major, particularly at a time when there is more and more content to be covered. Alternatives include, again, adding to the length of programs (e.g., requiring a broadly based, pre-professional degree in engineering, followed by specialized graduate study), the development of "context courses" which expose students to interdisciplinary issues organized around important issues of the day, the option of a "Foundation Year" (which might deal with the classics or the great ideas of the twentieth century), more carefully selected and limited courses that would be suitable to meet distribution requirements, or the establishment of a residential college in which students pursue a science major, for example, but also are exposed to considerable range and depth in the humanities and social sciences.

## 3. Vocational and Job-related Training

The pressures on the U.S. and Canadian economies arising from the changing economic context have thrown into sharp relief the inadequacies of existing approaches to vocational and job-related training in North America. Competitive pressures, new forms of technology and work organization, and the need to meet the demands of changing product markets have a direct impact on skill requirements and therefore on the amount and kinds of training required. According to the Premier's Council, the demands for human resource development in the new global economy are considerable:

> The industrial restructuring challenge facing Ontario over the next decade will require massive shifts of capital and human resources to higher value-added per employee activities in all sectors of the economy. These shifts cannot be accomplished without a substantial increase in the level and quality of workplace training in the province. Higher value-added products generally require more skill in their creation, production and distribution. Ontario's workforce will need to acquire those additional skills to reap the high wage rewards that can accompany the high value-added economy.
>
> The Council's research found that many employers, employees, industry associations and trade unions alike recognize the significant shift in skills and training that will be required. These organizations, both private and public sector, have found that higher productivity and better quality goods and services cannot be delivered through the adoption of new technologies alone. They have discovered that, without corresponding changes in the skills of their employees and the organization of work, new technologies do not necessarily result in major increases in productivity or quality. Organizations which have introduced flatter management structures and asked their workforces to participate more fully in operational decisions have also found that major training efforts are required to give workers the skills to participate effectively. In fact, one would be hard pressed to find any organization of size in the province which does not recognize that a major increase in training and skills upgrading is required if Ontario is to be successful in the new global economy.

As the above quotation implies, the challenge is not only to improve the amount and quality of training. It is also to change the type of training from job or task specific skills to more generic skills. The case for generic skills training has often been made on the

grounds that workers with skills of wider applicability will be more adaptable, able to shift readily from one assignment or employer to another. In a rapidly changing economic context characterized by the constant development of new technologies, by production of a diversity of products for limited market segments, and by rapidly changing consumer demand, the advantages of flexibility offered by generic skills training are clear.

There are, however, more specific reasons for a renewed emphasis on generic skills. Some of the technologies themselves require more general capacities — for example, to work with programmable factory automation or to operate personal computer workstations. There is also a need for broader skills arising from "soft" technologies; for example, in companies that emphasize participative management, job rotation, team work, flatter management hierarchies, or the monitoring of technology where problem solving and crisis management skills are important (Premier's Council, 1990).

In addition to addressing the amount, quality and the type of training available, it also appears that the distribution of training opportunities needs to change significantly. Studies of the availability of training have in the past repeatedly documented the fact that those who are already disadvantaged in educational or occupational terms are also those who are most likely to obtain additional vocational or job-related training. Thus Kazis (1989) refers to a Conference Board study which concluded that 60 per cent of the American companies surveyed provided in-house management training, while only 35 per cent provided in-house courses for professional and technical workers and only 11 per cent provided such courses for hourly workers. Similarly, a survey conducted by the Canadian Labour Market and Productivity Centre (CLMPC) revealed that 41 per cent of all full-time employees questioned in the survey received no training over the previous two years while another 18 per cent received one week or less of training. More than one-half of all unskilled workers, who are most in need of training, received none at all (CLMPC, 1990). Thus there is a need to deepen, or democratize, the availability of training throughout the labour force of employing organizations, including small as well as large employers, in order to meet the requirements of changing technologies and new forms of work organization.

## *Employer-Based Training*

When judged against the requirements of the new economic era, the shortcomings of training efforts in the United States and Canada are readily apparent.

In the private sector, the amount of training provided by employers to people in their employ is very weak indeed. In terms of dollars spent per employee, Canadian employers are reported to spend less than half the amount spent in the U.S. and the latter, in turn, spends only a fraction of that provided by other leading countries (Economic Council, 1990; CLMPC, 1990; Premier's Council, 1990).

In terms of the quality of training, as noted above it often tends to be narrow, task-related instruction of the variety to be obtained by "following Joe around" in order to learn how a particular role is to be performed (Kazis, 1989). Even when skills training is more formally provided, it tends to be narrow in focus, especially in those programs that have adopted a competency-based approach:

> The Council is far from confident that the narrow competency-based approach to training will develop the flexibility or the broad problem-solving skills essential for the workforce of tomorrow. The problems with this approach were captured in the comment of one vocational instructor who had for several years been teaching a competency-based program in auto mechanics to students at a community college: "The students who graduate from this program may be able to do a lot of discrete repair tasks, but they've got no feel for the engine. I wouldn't want to hire them in my garage."
>
> Today's training and retraining programs, both on and off the job, are being challenged to abandon the restricted and fragmented approaches to manual learning that were designed to serve the age of the assembly line. Increasingly, what is being sought are broader and more integrated forms of knowledge, more systems comprehension, more "feel for the engine." This is not to suggest that such knowledge has become a universal requirement of all jobs; however, it is becoming characteristic of a great many workplaces where new technical skills training is much in demand (Premier's Council, 1990).

Explanations for the lack of employer interest in serious vocational training programs usually dwell on the alleged reluctance of employers to invest heavily in the training of employees who may then leave to work for another firm. While worker mobility rates are high — the average American worker experiences 11 employers during the course of his or her working life, compared with five in Japan — high turnover is, in fact, limited to specific types of workers, such as young people and those engaged in seasonal occupations. Greater employment security provisions could be combined with higher training investments. Alternatively, employers within a region or industry could pool their resources for training in the expectation that an employee who leaves one firm might very well not move outside the region or industry. There is also some reason to believe that employees tend to be more loyal to a firm that is prepared to invest in their training than they are to one that is not (*Report of the CLMPC Task Forces*, 1990).

The lack of a training culture among employers in Canada can also be explained by the ease with which skilled immigrants could be hired in the past, a situation that no longer obtains:

> Historically Canada has been able to attract skilled workers from other countries to join in developing and improving its position in the industrialized world. Employers could rely on a steady stream of skilled immigrants to meet their industry needs which resulted in a reluctance to train their more unskilled existing workforce. Any training that was provided centered around "orientation" programs for new employees and was not generally geared to the future needs of the employer or the existing employee. Equally, workers did not fully understand the need or benefits related to the acquisition of higher skills. Their work day and family responsibilities left them with little energy to pursue learning opportunities after hours . . . .
>
> Many of Canada's trading partners are a long way ahead in terms of the development of a broad consensus on the need for a training policy that is not only clearly

> articulated but understood and developed by employers, unions, learning institutions, learners and their parents (*Report of the CLMPC Task Forces*, p. 199, 1990).

An equally important explanatory factor for the lack of employer-based training in North America is surely the fact that a mass production (and in Canada's case, also a resource extraction) economy has not required high levels of education and training on the part of its workforce — most of which is engaged in manual labour and/or in performing repetitively a very limited set of tasks. Indeed, the Bureau of Labour Statistics in the United States reported that, in 1983, about 45 per cent of all workers required no formal training beyond compulsory schooling. The situation is summarized by Kazis (1989) as follows:

> In the U.S., production workers move typically from high school to work; technicians are likely to move into jobs from community colleges, proprietary training schools, or the military; engineers and managers spend four to six years in colleges and universities acquiring bachelor and master degrees before seeking employment. Once on the job, American workers — especially blue collar workers and workers in small firms — do not receive extensive training. And training is not generally incorporated into firms' strategic planning.

As the economy shifts to one that reduces unskilled and semi-skilled employment opportunities in manufacturing and in the primary sector, and to one that requires a much better educated workforce on the shop floor and in many service sector occupations, the weaknesses in North American approaches to job-related education and training are becoming increasingly obvious. The essential weakness is one of failing to make this kind of training a priority for the bulk of the workforce and failing to put in place the institutions and programs that would provide long-term and well thought out training for a very large number of occupations. The North American record compares poorly with Germany with its three-year certified apprenticeship training for some 400 occupations (mixing on-the-job training with classroom work) and the guarantee provided all workers that they can draw on at least two years of training under specified conditions. It also looks pale in comparison with Japan, where employer-organized training predominates, where workers are rotated through a series of jobs in order to learn multiple skills, and where full-time staff are available on the shop floor to provide instruction.

Employers in the United States and Canada have in recent years shown more interest in a better trained and educated work force, and a number of collaborative ventures involving schools and major employers are now in evidence. Most of these experiments are directed to reducing the drop-out rate in public schools, however, and do not come to grips with the major reforms required in the area of job-related training (Ford Foundation, 1989). In both countries, however, there is more interest in developing joint labour-management training programs, often cutting across particular firms to include entire regions or industries. For example, in the United States the Big Three auto companies set aside 17 cents per hour, per employee, for a union-company joint education and training fund. For General Motors workers alone, this fund amounted to about $150 million in 1988 (Jacobs, 1989). In Canada, sectoral initiatives in the steel, and the electrical and electronics industries are under way. Other policy ideas to improve the amount of employer-based training are for governments to establish a training fund by taxing companies who in turn have the tax refunded to the extent that they provide

training, or for employers to provide sponsored education leaves, earned time off for training, or a firm-level training trust fund (Economic Council of Canada, 1990).

## *Public Sector Training*

In addition to employers and unions, of course, governments are also active in the provision of vocational and related training. If we leave aside occupational training in the high schools and universities, government-sponsored vocational training comes essentially in two forms: through provincial or state-run programs usually delivered in community colleges or their equivalent, and through federally sponsored vocational and job entry programs such as the Canadian Jobs Strategy or the Job Corps and other programs in the United States.

At the federal level in both countries, much of the training is targeted to the disadvantaged; indeed the officially designated target groups for the Canadian Jobs Strategy are groups such as the long-term unemployed, new entrants to the labour force such as women who have been working in the home, visible minorities such as Blacks and First Nations people, and so forth. This is entirely necessary and defensible, but it ignores the bulk of the workforce and leaves training programs largely as a reactive measure to problems that have developed, rather than anticipating adjustment problems by providing assistance before workers become unemployed:

> Government measures directed towards labour market adjustment can have several thrusts. They can be designed to enhance competitiveness, to maintain labour market stability or to assure that access and equity goals are served. An active and industry-sensitive policy thrust attempts to anticipate and build the skill levels and employment prospects of all members of the labour force, bracing both workers and their workplaces to meet restructuring head-on. A reactive, stabilizing policy orientation tends to deal with the victims of labour market crises after these situations emerge, rather than anticipating them and preventing or mitigating their effects. Access or equity-based labour market policy is necessarily reactive (Premier's Council, 1990).

Critics of the Canadian Jobs Strategy maintain that it ends up providing a subsidy to low-wage employers by giving them trainees at reduced wages. The programs are of short duration, providing job-specific, low-level skills rather than preparation for stable, higher paying employment and meeting training needs at the higher end of the technical spectrum (Muszynski and Wolfe, 1989; Halifax Task Force, 1988). Similar criticisms are encountered by federal programs in the United States where studies show that low-income recipients of training earn at best only a few hundred dollars more per year, on average, as a result of having taken the training program (Barnow, 1987; Danziger and Weinberg, 1986).

A wider perspective on the issue of job training for the disadvantaged is provided by the *Report of the CLMPC Task Forces*, as follows:

> . . . the issue of training for the unemployed cannot be separated from the issue of adequate training for those still employed. A society which took lifelong learning,

> either in the workplace or in more formal settings, more seriously would have fewer problems with labour market mismatches and with long-term unemployment than does our society.
>
> ... It is important to state, as well, that training programs are not a substitute for job creation. A society which is creating new employment opportunities at a vigorous rate will clearly need to take training seriously, but training will only be of limited use in the absence of such job creation ....
>
> Finally, training must be seen in a broad context. Training should focus not only on getting people off the unemployment rolls and back to work, but on giving them the tools to cope with change in the future .... For this reason, the training programs which we develop must go beyond the needs of a particular application of skills and the needs of a particular job and develop the basis for further learning. Training is more than simply an "investment" in "human capital." It is an essential part of a democratic society (CLMPC, 1990).

Community colleges, for their part, seem to be receiving greater attention as a potentially key component in the rush to upgrade vocational training. As with universities, community colleges have to make difficult decisions about their curricula and the level of generality at which they aim their instruction. If too specific, their programs risk having limited appeal and rapid obsolescence; if too general, they risk becoming too removed from the needs of employers and workers. The right balance also needs to be achieved between the liberal arts component that exists in many community colleges and that can impart important general skills such as literacy and critical thinking, and the more specific, job-related content of the vocational programs. As in the universities, the two usually operate in separate worlds (Jacobs, 1989).

In contrast to universities, however, it does appear that many community colleges are moving toward developing more flexible and responsive relations with local employers (Province of Nova Scotia, 1988). If present trends continue, in fact, they are likely to be part of a significant realignment and decentralization of training responsibilities. The needs for training at the provincial and sub-provincial levels in Canada now appear to be too diverse, and changing too rapidly, to permit the continued operation of rather rigid, federally imposed, rules and criteria. In the past, such rules have required, for example, that applicants to the Job Development Program of the Canadian Jobs Strategy need to be unemployed for 26 weeks out of 30 in order to be eligible. They have precluded Nova Scotia from receiving federal support for training programs in the fishery because fishing-related occupations were not included in a national list of priorities, and they have held that upgrading programs cannot be made available to those with less than a high school education despite the clear need for this in some regions and among some target groups (*Report of the CLMPC Task Forces*, 1990; Doggett, 1987).

Recent reports thus recommend a more useful division of responsibilities. It is suggested that the federal role be limited to the establishment of national training objectives, the provision of funding in accordance with such objectives, putting in place national standards, and playing a role in the coordination of programs to avoid unnecessary duplication and lack of fit across the country. The provincial and local levels would assume, more clearly than in the past, responsibility for the design and delivery of programs. More specifically, there seems to be an emerging consensus that business and

labour should play a more prominent role in shaping vocational training programs on the grounds that they can more clearly specify the kinds of training required and provide the employment opportunities (or the release time) that would complement the training program. Research carried out in the United States suggests that programs sponsored by employers or trade unions are more likely to have above average placement success than those run by state agencies or other organizations.

The tenor of recent proposals is captured by the following:

> The foundation of a reformed labour market system, in our view, would be a series of Local Labour Market Boards which would have discretion over the application of labour market policy in the community. This discretion would include responsibility for the supervision of the activities of local CEC (Canada Employment Centre) offices, which would report, through the Director, to the local Labour Market Board.
>
> Such bodies would be composed of business and labour representatives, chosen for their knowledge of labour market issues, and community and other representatives, as appropriate . . . .
>
> At the local level . . . the expertise of labour and business, together with other input, such as from women's groups, representatives of aboriginal peoples, and those with special needs such as injured workers and those with disabilities, will allow those responsible for program delivery to choose the most appropriate mix of institutional and workplace training. By its nature, this mix of needs and capabilities varies from region to region, and from community to community; national funding, and the setting of broad national objectives, must guide but not interfere with the ability of communities to control their own institutions and the manner in which they deliver services
>
> In following this route to devolving decision-making authority to the local level, Canada will be building on the experience of several other countries (*Report of the CLMPC Task Forces*, 1990, p. 95).

While some areas of agreement appear to be emerging, notably the agreement of business and labour to participate with government on a national training board, there are still major disagreements between business and labour about the nature and purposes of the training that each would like to see put in place, the responsibilities of the key participants in supporting such training, and the policy measures to be adopted by governments. In fact, in the recent round of consultations organized by the CLMPC, the two sides could not agree on key issues pertaining to workplace training. Thus the task force report on training the employed labour force in the end comprises two separate discussion papers, one prepared by labour and the second by business representatives. The area of disagreement is most sharply drawn over the question of whether government should impose a training levy on all employers or whether the provision of training should continue to be a voluntary, discretionary activity, without employer obligation. Other matters of disagreement include issues such as the extent of employer responsibility for funding the training of the employed labour force (as compared to the responsibility of workers or governments), whether training programs should be used as a tool to achieve greater equity in the workplace, the extent to which training is directed to broadly based or job-specific skills, and the extent to which training should be designed so as to enhance workers' control over their jobs (*Report of the CLMPC Task Forces*, 1990; see also O'Grady, 1990 and Martin, 1990).

The Premier's Council report is clear, however, about the need for both parties to be involved in the development and implementation of a new training strategy:

> The process of defining and acquiring skills lies at the heart of any industrial relations system. Nothing is more central to workers' conception of their worth than their skills. Their skill levels determine the degree of bargaining power that they can exercise in the labour market. For management, increased flexibility in the deployment of skills in the work process is the key to their competitive strategies. Within the prevailing industrial relations system, much of the organizational energies of management and labour have been directed towards negotiating the definition and compensation for skills . . . .
>
> [Thus] the current training and skills deficit cannot be addressed independently of the existing industrial relations system in this province. Questions of training and work organization at the level of the enterprise are closely tied to questions of job definition, job classifications and the determination of pay scales . . . it is unrealistic and impractical to devise an effective training strategy without taking these factors into account. A new provincial training strategy must recognize and incorporate the central role played by the principal labour market parties — management and labour (Premier's Council, 1990).

In recognition of this principle, the Premier's Council recommended the establishment of an Ontario Training and Adjustment Board, composed of both management and labour representatives, to assume substantial responsibility for providing strategic direction for workplace training and adjustment in the province, including responsibility for the allocation of funds and implementation of programs. Its proposed mandate places considerable reliance on the need to develop sectoral and regional training committees to meet the needs of specific groups of industries.

In conclusion, it is therefore not only a matter of increasing the amount, quality and type of training and its distribution among the labour force, but also one of establishing a new institutional structure that embodies new roles and relationships among the key parties. As a result of the initiatives undertaken both at the federal level and in Ontario, the direct involvement of management and especially labour is to increase in the training field. At the same time, the role of government is likely to be redefined so that it plays less of a role in determining what training is provided, and how, in the private sector, but more of a role in setting up the institutional structure, providing funding, perhaps setting standards, and so forth. Government would also likely retain responsibility for training for equity purposes, including the employment disadvantaged.

# Chapter V

# The Work/Welfare System

Another social system which intersects with the workplace and which is implicated in economic restructuring is the work/welfare or income security system. This system has expanded significantly in the twentieth century, and particularly since the Second World War. However, the expansion stalled by the mid-1970s, and in the interim it appears that a new trajectory is being followed in both Canada and the United States.

In retrospect, one can readily understand the factors that contributed to the considerable expansion of the welfare state since the early 1930s. Among them is the Depression; it gave a shock to the system, providing the political leverage for new policy interventions, especially by the federal governments in Canada and the United States. It also provided the new understanding that social problems such as unemployment could not always be reduced to questions of individual responsibility. Important, too, in the development of social policy were the centralizing effects of the Second World War and the several decades of steady economic growth which followed. The latter made the expansion of public programs relatively painless in terms of fiscal resources. Finally, it is worth noting the acceptance by governments and the public of what is referred to as the Keynesian consensus — not only Keynes' ideas about the macroeconomic management of modern economies but also the idea that the state could reconcile the private ownership of the means of production with democratic management of the economy, including state control over the level of unemployment and the distribution of income (Stewart, 1988).

These and other factors combined to permit and encourage a steady stream of new policy initiatives, putting in place in North America many, if not all, the programs of the modern welfare state. However, there have been few major initiatives since the 1960s.

Contemporary writing on the state of the welfare state suggests that both the economic and the political bases for major new initiatives have been undermined by events in the 1970s and 1980s.

On the economic front, the period of sustained economic growth, impressive improvements in productivity and rising real incomes came to an end by the mid-1970s. The reasons for this are not entirely clear — some accounts emphasize the impact of external shocks and resource scarcities, such as the two major oil price increases and the resulting inflation which grew despite higher unemployment (i.e., the breakdown of the relationship described by the Phillips curve). Other accounts, as we have seen, suggest that the writing was already on the wall, that the mass production model had run its course; under new competitive and market conditions it could no longer yield high growth and productivity improvements (Piore and Sabel, 1984).

Still other accounts emphasized political factors. As Stewart explains, political support was eroding:

> This economic questioning [of Keyenesianism by monetarists and neo-classical economists] had its counterpart in political thought. From both right and left, political observers examined the emerging strains of the Keynesian era in discussions of political versus economic rights, opportunity versus entitlement, from a Marxian perspective the contradictions of the welfare state, from the right the emergence of public choice theorizing questioning the very capacity of self-seeking governments to serve collective purposes. Nor was the dissolution of the Keynesian consensus confined to intellectual elites. A broad reaction infected publics-at-large reflecting ... disappointed economic expectations, disquiet with intrusive government, and a weakening commitment to public purpose (Stewart 1988).

Whatever the cause, large additional economic resources were no longer available to fuel the continued expansion of the welfare state; indeed, the fear was that major reductions would take place as governments and segments of the public came to accept the view that welfare state expenditures were not only excessive but were also contributing to slow economic growth.

While the role of government has come under increased scrutiny, and social programs have come to labour under a negative image of contributing to economic inefficiency and social dependence, public concern about achieving economic security in turbulent economic times remains. So does public support for most, if not all, the major elements of the modern welfare state as reported by Canadian survey data and as experienced by governments that have attempted major cutbacks (Johnston, 1986; Banting, 1989).

Under these conditions, the question arises as to the proper role and shape of social policy and programs for the future. While much of the debate of the late 1970s and through the recession of the early 1980s had as its main thrust the hope that lost ground could be regained and a rudely interrupted trajectory could be resumed, more recent commentary suggests that this is not in the cards. Rather, we maintain that if social program development is to regain its momentum, it needs to develop a new, revised, connection to the economy and play a role which regains widespread public support for its agenda. The reverse is necessary as well — our thinking about economic development increasingly

needs to take into account the social and natural environment as well, if the latter are to be sustained and if economic development is to succeed in the new context.

## 1. The Connection Between Work and Welfare

The provision of income security in advanced industrial societies covers a wide range of policies and programs. A description of the main elements gives a clear picture of the interconnection between the work and income security systems. First, employment is regarded as the first line of defence; it is expected that those who are able to work will do so and that other elements of the income security framework will come into play only when employment income is insufficient or not possible. Secondly, there are a variety of social insurance programs that serve to maintain a person's income in the event that employment income is interrupted or terminated — through loss of employment (unemployment insurance), through illness or disability (workmen's compensation) or through retirement (old age security and pension plans). Thirdly, because wages do not take family size into account and because some individuals cannot earn sufficient income due to low wages and intermittent employment (the working poor), programs of income supplementation are required. Finally, when all else fails (for example, when individuals exhaust unemployment insurance entitlements, or when they do not qualify for benefits tied to prior employment as is often the case with widows or single parents) the "safety net" of social assistance comes into play to provide income support (Muszynski, 1989; RCEU, 1986).

In Chapter II, we saw the relevance of the income security system in the context of economic restructuring, but only in a reactive sense as it comes into play to respond to, and alleviate, problems of displacement, inequality, or poverty. While the reactive role is reasonably clear, the ways in which this system can and should facilitate economic restructuring in a more proactive manner is more difficult to determine. In the case of the other social systems that we have examined, it was relatively straightforward to determine how the workplace and the education/training system should be reorganized as part of a response to the kinds of competitive, product market and technological pressures outlined in Chapter I. The task is more difficult in the case of the work/welfare system, perhaps because we usually think of it only in a reactive role, perhaps also because the linkage to production in the economy is less clear.

Such linkages do exist, however. They may be difficult to identify if one looks at the array of social welfare policies and programs in a static sense, at one point in time. They become more obvious, however, in any analysis of change in policy from one period of time to the next. It is also instructive to examine the motivations behind the formulation and adoption of particular policies and programs, because such examinations reveal not only social and humanitarian motivations but also political and economic ones as well.

Under this type of scrutiny, and with the benefit of hindsight, it is clear that the provision of charity to the poor, for example, and later public social assistance, has always made a distinction between the deserving and the undeserving poor, regardless of the

actual level of need and prospects of the recipients. Great care was taken in earlier decades to ensure that the able-bodied poor have access only to the most minimal kinds of public supports in order to dissuade this group from living on public handouts rather than being available for the often meagre and menial labour that was available (Katz, 1986). In this manner, the design of the program clearly reflected the importance of economic objectives.

We also noted earlier that, in the mass production economy that developed in the late decades of the nineteenth century and that flourished in North America until the mid-1970s, the income security system also played an important economic role in that programs such as unemployment insurance served to maintain purchasing power on a stable basis even during periodic recessions. Family allowances, too, were justified at their origin not only on the grounds that they would recognize the extra financial burden imposed on parents of children in relation to non-parent families (horizontal equity), or that they would serve to supplement the incomes of lower income families with children (vertical equity) but also that they would provide an economic stimulus by putting cash into the hands of a large portion of the population (Battle, 1991). The minimum wage was justified on the grounds that it would put a floor under the incomes of those earning their living through the labour market.

Myles (1991), in fact, argues that the distinctive features of the income security system as it has developed in the earlier decades of this century can in fact be traced to the requirements of the mass production economy. Drawing on Piore and Sabel (1984), he outlines the linkage in this manner:

> The history of welfare states is not one of linear evolution but of rearrangements of the ways states intervene to organize the distribution of wealth and income. Particular welfare state regimes have generally been introduced as responses to specific historical problems related to production. In the 19th century, the "poorhouse welfare state," as Reinhard Bendix tells us, was created to encourage a reluctant population to enter a nascent industrial labour force. In the mid-twentieth century the problem was not creating labour markets but stabilizing product markets for mass produced consumer goods. Systems of wage stabilization — the social security welfare state — helped to solve this problem.
>
> Because of the high fixed overhead costs and inflexibility of production techniques associated with mass production, firms investing in those technologies require stable and growing markets to absorb their output. The key to investment is consumer demand rather than changes in the cost of labour and other factor inputs. The solution to this problem was the so-called Fordist mode of regulation: by linking wage increases to rising real rates of productivity, the working class would be able to consume what it produced. In the United States and Canada, the prototype for this arrangement was the wage-setting formula negotiated between General Motors and the UAW in 1948 . . . .
>
> The construction of the fordist life cycle depended on transformations not only in industrial relations practices but also in state policy. Traditional welfare states designed to provide social assistance to the "poor" were not enough. The Keynesian social security welfare state that gradually emerged after the Second World War was based on two novel principles of distribution — universality and wage replacement. Universality means less targeting of benefits to the poor and less discretion over their allocation since payments become entitlements, rights of citizenship or earned benefits, that cannot be manipulated by officials or local authorities. The principle of wage

> replacement requires not just benefits linked to past earnings and contributions (Bismarck reluctantly established this practice) but, more importantly, benefit levels high enough to allow individuals and families to maintain continuity of living standards when the wage earner leaves the market through illness, unemployment or old age (Myles, 1991).

While Piore and Sabel (1984), Myles (1991) and others who write in this vein are careful to point out that social welfare legislation was not originally proposed or accepted with the explicit principal aim of contributing to a stable economy, the implication clearly is that the compatibility of certain social policies with the "needs" of the economy ("needs" that are, no doubt, subject to definition by groups with varying degrees of political power) contributed to their acceptance and longevity, whereas other social policies that have been tried out since the Depression have not survived. We think it is instructive to view social policy from this perspective, because it does contribute to an understanding of social policy change that goes beyond the more common-sense explanations outlined earlier — i.e., that social policy can be understood primarily as a response to social problems.

If the economy is now being fundamentally transformed, and if the social policy trajectory of the past several decades no longer suffices, the question arises: what are the key problems of an economy characterized not by stable mass production but rather by a range of new characteristics that represent responses to a much higher degree of international competition, unstable markets and more flexible technology? And, once this is established, what does it imply for the shape of the income security system?

These characteristic problems are more easily and accurately identified in retrospect, once a prevailing system has taken hold and matured. Nevertheless, the themes that have been prominent in this manuscript have been the need for increased productivity (the term being used in a broad sense); the need for an increased adaptive capacity on the part of firms, their labour force and related social institutions; the need for ways to be found more fully to develop and utilize human resources; and the need to develop a capacity for sustained innovation and technological change.

A work/welfare system congruent with and supportive of these parameters would likely have the following among its central characteristics.

Firstly, such a work/welfare system would utilize and develop human resources to their fullest capacity. This would imply, certainly, moving beyond passive income support programs that do little to prevent human resources from stagnating and deteriorating. It would also imply, however, moving beyond contemporary programs of training and job support for social assistance recipients that at best help people to move only into the low-wage labour market. It would require, in other words, a commitment to serious, long-term human resource development strategies.

Secondly, also in the interests of effective human resource development, as well as on equity grounds, income support strategies would also be required that would seriously endeavour to remove children and their families (including single parents) from a life of dependence on social assistance and poverty. The long-run economic and social costs of children and parents living in poverty and on social assistance for long periods of time are

becoming increasingly recognized (Taylor, 1991) and this is not a situation that is compatible with the new economy characterized above.

Thirdly, the work/welfare system would be designed in such a way that it would not provide support and sustenance to a low wage form of economic adaptation. This would require significant increases to the minimum wage, for example, the elimination of programs by the state that subsidize low-wage employment, and a range of other measures.

Fourthly, the work/welfare system would also place priority on policies and programs that provide security for the workforce, so that personal insecurity does not stand in the way of technological and economic change. It would take the position that security and flexibility are mutually compatible, part of a "social contract in which everyone expects continuous change but [which] also expects that the costs of change borne by any individual at any given time will be relatively small" (Osberg, 1988c). Thus, effective policies to minimize loss of income and employment, and to help individuals quickly regain employment, would be required.

Finally, a revised work/welfare system would not, in our view, be dualistic in nature, on the grounds that the energies and talents of the vast majority of the workforce is required by the new economy. It would not be consistent with these requirements to continue an income security system in which some individuals are reasonably well served if they are in the core of the economy (benefiting from employer-provided benefits as well as from public programs) whereas others on the periphery are treated much less favourably.

These signposts do provide, we think, a basis for interpreting both current and future developments in social policy. The difficulty at this point, however, is that neither the Canadian nor the U.S. economy is moving uniformly in the direction of one kind of economic restructuring. Some interest groups, such as those representing the auto and steel sectors, have in fact pushed for a protectionist response to avoid, postpone, or minimize restructuring as much as possible. They have had, however, only limited success. Others are continuing in the mass production vein, seeking to produce for large and stable markets and investing heavily in automated equipment. Other sectors are choosing to compete on the basis of a flexible, lower wage labour force while another group of employers and unions have chosen the high-wage, high value-added type of response that we have emphasized as the appropriate direction throughout this manuscript. Myles (1991), drawing on the work of Reich (1989) and Cohen and Zysman (1987) further describes these latter two responses to competitive pressures:

> Whereas the neoconservative variant emphasized investment and returns to capital, "supply-side" social democrats emphasize productivity and labour quality. Both highlight concepts such as flexibility, innovation and change but these terms take on very different meanings. As Cohen and Zysman observe, flexibility may mean the ability to lay off workers, lower wages and contract out to non-unionized firms. But the capacity to change and innovate may also mean that skilled workers equipped with the appropriate technologies are able to apply these skills and technologies on a continuous basis to improve product quality, to change products to accommodate changing markets, and to adopt — even to create — new technologies. The latter — dynamic flexibility — is defined by Cohen and Zysman as the ability to increase productivity steadily through improvements in production processes and innovation. The former — static flex-

> ibility — they define as the ability of firms to adjust operations (release workers, raise or lower wages) at any moment to shifting conditions in the market. Whereas dynamic flexibility requires a high skill, high wage work force with security of employment, static flexibility requires a low wage, unskilled, disposable labor force. The flexibility it offers is static for two reasons. First there is a tendency to adopt new technologies at a slower rate (low labor costs reduce incentives to innovate) and, second, innovation occurs in a series of successive plateaus rather than on a continuous basis (Myles, 1991).

To come back to the income security system, therefore, the latter can be designed to accommodate or encourage either kind of economic pattern, just as the education/training system can support different kinds of responses. In the following sections, we will examine some of the debate about the nature of the income security system in the contemporary era, as well as some of the changes that have taken place in the system in North America since the turning point of the mid-1970s. Although there are some aspects of the changes that are compatible with a high-wage restructuring pattern, for the most part the changes seem to be more congruent with a low-wage, static flexibility type of response. We will concentrate especially on changes in unemployment insurance, social assistance/income support, and income supplementation measures since these are most closely related to the changing state of the economy.

## 2. Changing Social and Economic Conditions

Before turning to recent changes, it is worth noting what is not happening with the income security system. In line with the hypothesis that the mass production economy and its ally, the social security welfare state, have run their course, it is apparent that social programs emphasizing universality and wage replacement have not expanded since the early 1970s. On the one hand, measures that would have completed the agenda of earlier decades, such as a universal child care program in Canada or the United States, or the adoption of universal access to health care in the United States, or improved pension coverage in both countries, have not been enacted. Furthermore, some existing programs have begun to be undermined — in Canada, for example, family allowances and public pensions are now clawed back severely for higher income earners and are therefore less universal than they once were. Family allowances, too, are now only adjusted for inflation if the latter exceeds 3 per cent; hence, their real value is declining over time (Senate, 1991; Lightman and Irving, 1991).

There is also a growing recognition that the economic and social conditions that prevailed when programs such as unemployment insurance and social assistance were developed, no longer obtain in the present day. As a result, new approaches and revised policies need to be pursued. In the case of unemployment insurance, for example, it was provided for most, if not all, of the postwar period, in a context of low overall unemployment. Furthermore, it was provided to heads of households who were usually male and who were the principal or sole income earner. In the typical case in the context of the mass production economy, his employment tended to be stable and long term, with unemployment insurance coming into play for relatively short periods of time when economic conditions deteriorated temporarily. While these conditions did not obtain in

all parts of North America nor at all times, they were the conditions around which the unemployment insurance system was designed.

Social assistance policies were also developed in this context and were geared principally to persons such as widows or the disabled who were not able to be employed or who were not expected to work. In the context of low overall unemployment and discouraging rules of access, there were typically few able-bodied unemployed on the welfare rolls.

Almost all of these parameters have changed significantly in the last two decades, however, and as a result there is persistent pressure for change in the policies, practices and customs that define the work/welfare system. With the high average unemployment levels of the 1970s and 1980s, combined with longer periods of unemployment for a sizeable sub-group, pressure has grown on the system to accommodate those with limited or short-term employment prospects. Indeed, the proportion of the able-bodied unemployed and working poor on social assistance grew appreciably in two decades — from 39 per cent to almost 66 per cent in Quebec between 1973 and 1983, to give one example (Courchene, 1987), and from 31 to almost 40 per cent in Halifax between 1983 and 1988, to give another (Halifax Task Force, 1988).

The unemployment insurance system has also had to accommodate a more diverse constituency. In Canada, it became available to people with as little as 10 weeks of prior employment, with benefits provided for as many as 50 weeks. With such eligibility and duration features, as well as provisions for fishermen's benefits and extended benefits in regions of high unemployment, the UI system has been severely criticized in recent years for having gone well beyond its social insurance role to serving, in addition, as a source of funds for income supplementation, income support and regional development (RCEUDP, 1985; RCEU, 1986; CIUI, 1986; and Courchene, 1987). Yet, while it plays this role, its critics argue that the use of unemployment insurance funds is a very inefficient way to go about meeting these other objectives. For example, to use unemployment insurance to provide income support and supplementation purposes is hard to defend as long as UI is given to individuals on the basis of individual characteristics (i.e., the fact of individual unemployment) when the need for income support/supplementation is better determined on the basis of family or household characteristics. The accounting period for unemployment insurance is also much too short if these other purposes are to be served.

Other conditions have also changed. As Osberg points out, in contrast to earlier times when UI typically was given to households that were usually poor, relying on a single earner, now some 71 per cent of families affected by unemployment still had at least one other family member employed (Osberg, 1988b). Other data reveal that in 1981 over 60 per cent of UI benefits went to families in the top three of five income categories, and some 86 per cent of benefits went to family units with incomes above Statistics Canada's low income cutoff (Courchene, 1987).

Finally, serious questions have been raised about the suitability of the work/welfare system in the context of a rapidly changing economic environment. While in the past it may have been adequate for those who became unemployed simply to receive income maintenance funds, the nature of unemployment and the requirements of contemporary labour markets are now quite different, as we have seen. A relatively passive approach to

income maintenance or support is no longer suitable. As the Economic Council of Canada points out:

> The conventional view of the labour market has been that individuals would work for the same employer for extended periods of time and that breaks in that relationship would be infrequent and would typically be associated with "cyclical" unemployment resulting from business downturns. That image of the labour market has been transformed, however, partly because of persistently high unemployment rates, partly because of the accelerating pace of economic change, and partly because of the proliferation of nonstandard employment forms. A growing proportion of the labour force has no attachment, or only a weak attachment, to a particular employer. Thus it will become more important in the 1990s for public policy to deal directly with those "unattached" workers, many of whom experience substantial economic insecurity. As well, the slowdown in the growth of the labour force will heighten the need to ensure that all Canadian workers can participate productively in the labour market....
>
> Income maintenance through a traditional unemployment insurance system has an important adjustment role in providing earnings replacement in cases where unemployment is cyclical or seasonal or where some time is needed to locate a job opening ... however, in the present context of rapid industrial and technological change, skill obsolescence, and growing regional imbalances, a large and growing proportion of unemployment is "structural" in nature. As a consequence, training, mobility and counselling services need to play a much larger role (Economic Council of Canada, 1990).

## 3. Making the Work/Welfare System More Dynamic

As with the other systems we have examined, therefore, there is considerable interest in reforms to the UI and social assistance systems that would make these programs more flexible and more dynamic in nature, in the process involving less waste of, and more investment in, human resources. One aspect of this issue is to remove the financial disincentives to employment that now discourage those who receive social assistance or unemployment insurance. In the latter case in Canada, at present earned income needs to be reported and benefits reduced or discontinued if earned income exceeds 25 per cent of benefits. Benefits are also discontinued if a person wishes to become a full-time student while receiving unemployment insurance. In the case of social assistance, the disincentives are equally prohibitive. Recipients have their benefits reduced almost dollar for dollar if employment income is obtained. Other benefits, such as medical and housing subsidies, can also be lost. In addition, the current system provides little support to those seeking employment — quite the reverse in fact. Clients are almost stripped of personal assets before they can qualify for public assistance, and it is a major struggle to obtain adequate supports that would assist the search for, and transition to, employment (e.g., to obtain a telephone, money for transportation and clothing, child care, and an uninterrupted flow of income). As a result, the system is accurately condemned as a "welfare trap," one that pays people to vegetate on social assistance rather than one that supports the transition to employment for those who seek it (National Council of Welfare, 1987; Halifax Task Force, 1988; Ontario Social Assistance Review Committee, 1988).

Progress in addressing the employment disincentive issue has been slow, in part because of the cost implications for already stretched budgets if new services need to be provided, in part because the social assistance and the unemployment insurance bureaucracies are poorly prepared to deal with clients in anything other than an income maintenance pattern. In terms of policy proposals, the financial disincentive question is usually addressed by proposals that would permit clients to retain a higher proportion of earnings received from employment. Thus Courchene (1987), for example, advocates that UI recipients be permitted to retain 50 per cent of employment earnings before their benefits are reduced.

In the case of social assistance, the situation is more complicated because not all those receiving social assistance are able to work. Under these circumstances, two-tier systems are proposed whereby those unable to work are given a reasonably high level of income support but any additional income would be taxed back at a relatively high rate. On the other hand, those who can be expected to work (a judgment that is problematic to make clearly in all cases) are guaranteed a smaller support level in order to encourage a search for employment but they can retain a higher proportion of earnings when they do occur. The report of the Ontario Social Assistance Review Committee (OSARC) goes beyond financial considerations, too, and examines in some detail how the organization and staff roles of social assistance systems should be changed so as to make the receipt of social assistance a matter of short-term transitional support rather than an obstacle course that discourages employment (OSARC, 1988).

A second set of policy proposals, also geared to making the work/welfare system more supportive and transitional, has to do with the options available to people while they are receiving assistance. For example, the federal government in Canada has proposed to save money within the existing UI program through measures such as requiring longer qualifying periods and reducing the number of weeks of support. It proposes to use these funds to support more job training, job creation and mobility programs for persons who are in receipt of UI. The proposals have been roundly criticized, not so much for the new options to be provided, details of which are sketchy, but rather because of the cutbacks in benefits, the proposed use of UI funds for these more active purposes rather than general government revenues, and the withdrawal of the federal government from sharing in the costs of UI with employers and employees (Maritime School of Social Work, 1990; Carr, 1990).

In a somewhat similar fashion, the Social Assistance Recipients Program (SARS) has been created to provide training opportunities for welfare recipients, using funds from federal and provincial welfare budgets as well as the resources of the Canada Employment and Immigration Commission. The effectiveness of this program has also been questioned, with criticisms focusing on the lack of standards and evaluation of the training provided, the shift to private-sector entrepreneurial providers of training, the short-term duration of projects, and the high proportion of training that is oriented to preparing for gender-stereotyped, low-income occupations (*Report of the CLMPC Task Forces*, 1990; National Anti-Poverty Organization, 1989). Banting (1989) concludes that "retraining is becoming the new panacea in labour market politics, drawing resources both from income support programs and traditional job creation projects."

There are many variations on the types of programs mentioned above. The Macdonald commission, for example, recommended the establishment of a transitional adjustment assistance plan which would be directed particularly to unemployed, prime-age and older workers with a labour force attachment of at least five years. It would use savings from a rationalized UI program to provide support for mobility grants, on-the-job training programs, wage subsidy initiatives, and early retirement plans (RCEUDP, 1985). The Newfoundland Royal Commission, for its part, places more emphasis on a diversified strategy of economic development. It recognizes that national policies are more likely to be designed to serve the needs of industrial Ontario and Quebec, and that training in the context of communities with high unemployment can often be fruitless. Thus, the emphasis of the report is on strategies for employment creation in small resource-dependent regions as much as in urban areas. Complementary educational and income security reforms, including a form of guaranteed annual income and a rationalized UI system, are also recommended (RCEU, 1986).

Finally, the Economic Council of Canada has recently recommended that the existing unemployment insurance fund be converted to an "employment insurance" program. It would provide, as it does now, income maintenance for those workers who are temporarily unemployed but who possess marketable skills. Those not in this position, however, would be able to draw on the fund for purposes such as skill development, mobility grants and counselling. Employer and employee-paid premiums would cover the income maintenance portion of the fund, but government contributions would be expected to pay for the more active components of the program. The council concludes that "the nature of the labour market now demands an adjustment strategy that will offer a range of options to unemployed workers — to receive income support, to improve employability, or to pursue some combination of the two" (Economic Council of Canada, 1990).

In the United States, there is a similar interest in making the work/welfare system more transitional (Ellwood, 1988). It appears, however, that the conservative critique of Aid to Families with Dependent Children (AFDC) and related programs has had considerable impact, to the point that some observers believe that a paradigm shift is in progress, from welfare defined as an entitlement to welfare being seen as something that is provided only in exchange for some behaviours:

> Public policy toward the poor has always been in a state of flux. In general, the provision of income support without obligation has been viewed with disfavor throughout much of history. The purpose of the early AFDC program was to keep impoverished mothers out of the labour force so that they could fully attend to their caretaker responsibilities. Their obligation was to provide a "fit" home for their children, a concept that states operationalized by imposing numerous conditions (e.g., no man in the house) on the receipt of public assistance. The sense of obligation attached to welfare was attenuated about two decades ago through a series of court decisions and federal administrative rules. Under the "entitlement" concept that emerged, welfare was to be provided in a simple, equitable, and standardized fashion — based largely on categorical status (number of children, marital state) and economic need. The underlying assumption of the entitlement concept was that people were poor because they didn't have enough money. The solution was direct: provide them with the shortfall.
>
> The 1980s witnessed . . . a paradigm shift. Perceptions of the poor and the nature of poverty moved from an emphasis on contextual/environmental explanations to those

> emphasizing personal responsibility and concerns about "behavioral dependency." Though "behavioral dependency" and the related notion of a "culture of poverty" are difficult to operationalize and assess empirically, they remain convenient bases for describing the intellectual and political framework within which welfare reform has come to be discussed. When poverty was perceived to be situational in character, the poor were seen as victims of environmental and opportunity constraints — a variant of the "blocked opportunity" thesis that had guided the formulation of the War on Poverty in the 1960s. To the extent that the poor are now held responsible for their own circumstances, however, it no longer seems appropriate to supply the means by which they can remain impoverished and dependent. Nor has it escaped the attention of analysts that significant social shifts have occurred; most women, even those with young children, are now in the labour force. The current debate seeks more balance, taking into account both environmental and personal factors that contribute to poverty (Corbett *et al.*, 1989).

Two kinds of programs have emerged from this shift in emphasis — "learnfare" and "workfare." First, Wisconsin has begun a program which requires that all teenagers aged 13 through 19 who are included in an AFDC grant must be enrolled in school and meet strict attendance standards until graduation. Failure to comply on the part either of teen dependents of parents receiving AFDC, or teen mothers on AFDC, results in a reduction in benefits until they comply with the requirements (Corbett *et al.*, 1989).

Workfare programs, for their part, have had a longer history in the United States, and a good deal of evaluative information has been gathered about various state-level programs (Guerin, 1989). They, too, are an expression of the "social contract" model, i.e., the idea that "government will provide income support and (in some cases) training and education to enhance competitiveness in the labour market on the condition that the recipient fulfil an obligation to achieve a level of self-sufficiency consistent with his or her abilities" (Corbett *et al.*, 1989). The recent welfare reform legislation enacted by the U.S. Congress contains a work/training requirement that obliges some, if not all, AFDC recipients whose youngest child is three years or older to participate in their state's JOBS program. The latter offers a range of activities from education to job skills training to work supplementation. The legislation represents a liberal-conservative compromise, with the two groups having disagreed on such issues as the degree of choice or obligation the recipient experiences, who should be targeted, how extensive the support services should be, and so forth (Reischauer, 1989).

Evaluations of the work/welfare programs in the United States in the past decade show mixed and modest results, and they are particularly likely to fail under conditions of high unemployment:

> ... in recessionary periods, when jobs are scarce throughout the nation, a credible emphasis on work will be difficult to maintain. Unskilled welfare recipients will realize that they stand little chance of competing successfully against experienced unemployed workers for the few positions available. In regions of the country where the economy is chronically weak, this dilemma will be a persistent problem. Evidence from one such area, West Virginia, suggests that work-welfare programs can do little to increase the employment or earnings of welfare recipients if the economy is not growing. A public sector job of last resort may be the only alternative in such cases (Reischauer, 1987a).

Thus Wacquant and Wilson (1989), writing in the context of inner cities plagued by high unemployment caused by the disappearance of blue-collar manufacturing jobs, are clear in their view that both liberals and conservatives have missed the point:

> In recent years, a liberal-conservative consensus on the question of welfare reform has emerged around the notions that (1) public assistance should be based on reciprocal responsibilities whereby society is obligated to provide assistance to welfare recipients, who in turn are obligated to society to behave in socially approved ways; and (2) able-bodied adult recipients should be required to prepare themselves for employment, to search for work, and to accept jobs when they are offered.
>
> These two points of agreement are predicated on the implicit assumption that it is not the availability of (decent) jobs, but the willingness to work that is the obstacle to be vanquished on the road to self-sufficiency; that a "welfare ethos" has emerged which encourages recipients of public assistance to shirk their social obligations as citizens to work, to be educated, to form and maintain families, and to obey the law. In other words, it is the moral fabric of individuals, not the social and economic structure of society, that is taken to be the root of the problem. This assumption is, in our opinion, both unwarranted and untenable. To date, no rigorous research can support such a view. Indeed, the basic timing and spatial patterning of mounting social dislocations and welfare receipt in recent years belie it. In many ways, this transformation of a societal problem into a question of individual attributes and incentives is little more than a modernized version of the sort of conventional attacks that have been launched against welfare programs since their inception by proponents of a market society.

## 4. Income Support and Supplementation

Apart from making UI and social assistance more transitional and supportive of human resource development, a second issue that economic restructuring has pushed to the forefront is the issue of an adequate system of income support for the working poor and others who are negatively affected by the economic dislocations occasioned by the new era. The working poor represent an important gap in the coverage of the existing income security system — at present, only four of the Canadian provinces have income supplementation schemes for the working poor in place and federal cost sharing under the Canada Assistance Plan is not available — and their numbers may well be increasing as trends toward income polarization and the proliferation of non-standard forms of work make themselves felt.

In addition, those who advocate for the reform of the UI system in order to return it to its social insurance principles — that is, to make it available for relatively short periods of time to those who otherwise have reasonably stable work patterns — are searching for a method of income support that can accommodate those who would no longer be covered by the UI system. As Courchene admits, this would affect groups such as youth and mature women disproportionately, because they would be less likely to have the entitlements to qualify for UI, nor the employment prospects to re-enter the labour force quickly after a period of unemployment. Benefits for fishermen, and extended regional benefits for those residing in high-unemployment areas would probably also be eliminated from the UI program, thereby adding other groups to those who would need an

alternative source of income support. At present, of course, the main alternative is social assistance, but we have already documented some of its shortcomings.

Whether to assist the working poor, those dislocated by technological change and a more competitive environment, or to support those who may no longer be covered by unemployment insurance, a number of policy alternatives are under discussion. These include the idea of a guaranteed annual income, which has been discussed at length in Canada; the refundable tax credit approach; and other income support/supplementation options directed at particular groups such as the disabled or single parents. All of the reform proposals place considerable emphasis on addressing the welfare trap, employment disincentive issue. It seems no longer acceptable to sustain a passive approach to income support for those capable of being employed.

## *The Guaranteed Annual Income Option*

The idea of a guaranteed annual income (GAI) was prominent in policy debates in both the United States and Canada in the 1970s, but faded in the United States with the defeat of President Nixon's Family Assistance Plan proposal. For almost a decade since then and until recently, American policy discussion has been diverted by the attacks on the welfare system by conservative writers such as Charles Murray (1984) and Lawrence Mead (1985). In Canada, however, the Macdonald commission resuscitated the idea in the mid-1980s, and further support was received from the Forget commission on unemployment insurance (1986) and Newfoundland's report of the Royal Commission on Employment and Unemployment (1986). The Canadian Council on Social Development has developed a GAI type of proposal, and the Canadian Labour Congress has also discussed the idea seriously.

While the concept of a guaranteed annual income has not been implemented, nor in our view is it likely to be in its pure form, we will see below that some partial steps in this direction are being taken. We will therefore discuss the GAI option briefly before turning to other policy alternatives.

In essence, a GAI scheme includes the following elements: establishing an income floor below which no citizen need fall; providing both income support for those unable to work and income supplementation for the working poor; delivering such assistance through the income tax system, along the lines of a negative income tax; and streamlining the system by eliminating many different existing programs in favour of one guaranteed income scheme for many different types of recipients. In the variant proposed by the Macdonald commission, for example, it was suggested that programs such as family allowances, the guaranteed income supplement for needy older Canadians, the married and child tax exemptions, child tax credits, federal social housing programs and the federal contribution to provincial social assistance all could be replaced by the proposed Universal Income Security Program. Further, the unemployment insurance program could shed its income support/supplementation role and return entirely to its original insurance intent (RCEUDP, 1985).

Guaranteed income approaches have been advanced for a number of reasons — to simplify the existing system and achieve administrative economies, to provide a minimal measure of economic security and a sharing of resources for those who need to adjust to economic change, to achieve more equitable treatment across jurisdictions, and so forth. Of particular importance is the desire to provide for income supplementation for the working poor and to eliminate the welfare traps of the existing system by providing a positive financial incentive to obtain employment. Usually, GAI proposals involve a two-tier structure to achieve this — i.e., relatively high benefit levels for those unable to work, combined with low benefit levels but also a low tax-back rate in the event of employment earnings for those who are able to find jobs.

While appealing at first glance, this approach to providing income support has a number of problems. We will concentrate on three in particular.

First, the approach is not as administratively simple as it might appear. Discretionary and difficult decisions need to be made, for example, to determine who is employable and who isn't, since benefit levels depend on this distinction. Also, the changing composition of households and the changing incomes of individuals need to be monitored in order to determine the appropriate level of public support. Finally, the calculation of payments due to those eligible can best be made at the end of a calendar year, after an income tax return has been filed, but this leaves potential recipients with insufficient income during the calendar year in question. While payments can be advanced, changing circumstances on the part of recipients then create an administrative problem.

Secondly, there is concern that a GAI arrangement would exert downward pressure on wages at the lower end of the labour market, and would therefore encourage the expansion of low-wage employment. If the working poor employee can count on a government cheque to make up the difference between actual wages and the poverty line, for example, it would ease the obligation on employers to provide a living wage for their employees. And by providing better financial incentives for welfare recipients to gain employment, a GAI scheme would increase the supply of labour available for low-wage employment, especially if the economy is operating at less than full employment, thereby exerting pressure on wages in a downward direction. Of course this problem could be addressed by complementary measures to make work pay (by increasing the minimum wage for example) but GAI advocates, especially conservative ones, seldom stress reforms of the labour market in addition to reforms of the welfare system. As we have seen, making wages and other features of the labour market more flexible is part of the conservative agenda for adapting the economy to new, more competitive economic conditions. Unfortunately, it is an adaptation that may encourage a low-wage response on the part of employers rather than one that encourages competition through greater productivity, investments in technology, and the employment of a high-wage, trained, labour force (Myles, 1988b; Muszynski, 1989).

A related concern is that a guaranteed annual income approach represents an income transfer-based approach to problems of poverty and underemployment, rather than an employment-based response. Rather than concentrating on creating jobs through, for example, the implementation of a full employment policy, and providing the supports to social assistance recipients to make the transition to employment, a GAI

approach appears to leave it up to the income transfer system to look after those who do not make it in the economy. To many observers, therefore, the guaranteed annual income comes across as a substitute for full employment, a reversal of the thrust to integrate marginal populations into the mainstream of the economy. It is primarily for this reason that the Ontario Social Assistance Review Committee rejected a guaranteed annual income solution to the problems facing the social welfare system in Ontario:

> Our major reservation about a pure GAI echoes one we heard a number of times during the public hearings: we share the disquiet of those who worry that the implementation of a GAI would deflect attention from efforts to generate jobs. We believe that providing people with employment opportunities is one of the best ways to ensure income security and to facilitate full participation in community life. The provision of employment is so central to our overall objective of achieving community integration that we would be extremely wary of any program that might diminish the importance of job creation.
>
> We are also concerned that a pure GAI is passive rather than active. It contains no measures that would encourage and facilitate the efforts of beneficiaries to identify and take advantage of opportunities to become self-reliant . . . it could isolate and institutionalize an underclass of marginal people while at the same time providing the public with a sense that society is "helping" the disadvantaged (OSARC, 1988).

As noted above, it is unlikely that the guaranteed annual income will come all at once, as the various commissions have advocated, if it comes at all. Apart from the realities of the situation — limited budgets, the commitment of various constituencies to existing programs, the complexity of the federal-provincial negotiations that would be required — Courchene (1987) argues that a "big bang" approach is undesirable for technical reasons; there is a need to experiment with intermediate steps and to evaluate how well they work (see also Seward and Iacobacci, 1987).

## *The Refundable Tax Credit Approach*

In the last several years, it has become increasingly clear that the federal government in Canada is taking a piecemeal approach to the issue of welfare reform. The central element in this approach appears to be the use of the tax system to provide income support and supplementation — not globally and totally as with the comprehensive GAI discussed above, but rather using specific measures for specific purposes to assist specific groups.

In Canada, the first step occurred with the introduction of the refundable child tax credit in 1978. This came at the expense of universal family allowance payments, which were reduced considerably and which represented the first of several inroads on universal programs in the interests of achieving better targeting of resources on low-income recipients. In more recent years, the refundable child tax credit has been increased in value and indexed to the rate of inflation, but only if the latter exceeds 3 per cent. At the same time, the value of the child tax exemption used by all income tax payers to reduce their taxable income has been reduced and a more targeted, but non-refundable, tax credit has been introduced (Battle, 1991). A refundable sales tax credit has also been put

in place, which benefits families with incomes up to approximately $15,000 (Banting, 1989).

In addition, the legislation which in 1991 introduced a goods and services tax (GST) includes a refundable tax credit for low income persons as part of the package. Courchene (1987) believes that a GST kind of tax is a particularly important step because its revenue-generating potential as a tax on consumption eases the strain on the income tax system. This would permit a reduction in marginal income tax rates, and some compensation to middle income taxpayers who would otherwise lose from the elimination of universal programs such as family allowances:

> the refundable . . . low-income tax credit . . . will represent a sea change in Canada's tax system, since the concept of income-tested refundable tax credits will be extended in a meaningful way to adults for the first time. Not only will this have significant implications for the operations of provincial welfare systems . . . but it will also be a key element in any future move in the direction of establishing an income-tested GAI.

Further steps along this path, of course, would be to convert personal and spousal tax exemptions into credits and to introduce an earned income tax credit to assist working poor families.

The federal tax credit arrangements outlined above have to date operated largely independently of provincial or municipal welfare programs. But clearly federal payments to low-income families and individuals, through refundable tax credits, represent an emerging federal contribution to many of the clients of provincial/municipal welfare systems. Courchene believes the increased federal presence is justified, since UI reform would increase the number of persons seeking alternative forms of income support. Furthermore, he argues, a direct federal role is justified in situations like those witnessed frequently in the past, when workers from the Maritimes, for example, have moved to work in Alberta or Ontario during expansionary periods only to lose their positions during harder times. When they move back to the Maritimes and when their UI benefits are exhausted, the burden of adversity falls unfairly on provincial or municipal social assistance programs.

The federal initiatives may also set an example to the provinces for the implementation of incentive-oriented approaches to welfare design, spreading the use of supplementary income-tested benefits for the working poor to provincial jurisdictions. Over the longer term, it is conceivable that the provinces would integrate the provision of social assistance into the personal income tax system (Courchene, 1987).

## *Some U.S. Proposals*

In comparison with Canada, the characteristics of the work/welfare system in the United States are significantly different in a number of respects. There is less emphasis on universal programs such as family allowances, the unemployment insurance system provides more restricted coverage to fewer people, and the welfare system — centred on

the AFDC program — also has its unique aspects. The debate about reform is understandably more preoccupied with problems of single-parent families, the inner city, and issues of race than is the case in Canada. Nevertheless, there is a similar interest in making the work/welfare system transitional, as we have seen, and in finding federal tax-based levers to assist low-income families. An earned income tax credit is in place, and proposals for reform pay considerable attention both to extending the earned income tax credit and to the desirability of introducing other kinds of refundable credits (Danziger, 1989; Haveman, 1988). At present, however, tax credits are only one element of income support in a complex picture, and it is unclear whether such credits will be the centrepiece of a reformed system.

In fact, there seems to be a tendency in the United States to move away from the idea of one basic income support program such as AFDC, which is deemed to be ill suited for the contemporary diversity of client situations that the program is being asked to address. Rather, particular policies are being proposed, and to some extent implemented, that are targeted to particular constituencies — the short-term welfare population, the long-term dependent, single parents, the working poor, and so on. Underlying this trend is the recognition that both the needs and the opportunities for change for the different groups are different.

With regard to single parents, for example, Wisconsin is experimenting with a new approach, the effect of which is to shift the burden of child support away from public welfare (i.e., AFDC) and toward the absent parent (Garfinkel, 1985; Lerman, 1987; Kammerman and Kahn, 1988). Thus several measures are advanced, beginning with clearly identifying each child's mother and father at birth; expecting through court orders, if necessary, that all absent parents contribute a certain percentage of earnings toward child support (the level varies according to the number of children); and enforcing such a requirement through mandatory payroll deductions. Since some fathers cannot be found and others will not be able to contribute sufficiently due to unemployment or low income, a further element in the program is for government to step in with, in effect, a social insurance program for children — that is, an assurance of support to a guaranteed minimum level such as $1,500 to $2,500 per year, per child.

Such a plan would provide a strong work incentive in that any employment earnings would be added to the child support that is received, in contrast to the current situation under AFDC where social assistance income is drastically reduced. To take a hypothetical example, a single parent with two children who receives child support and who goes on (with the assistance of training and other supports) to a half-time, minimum-wage job would be able to leave AFDC behind, once the earned income tax credit, medical protection and a refundable daycare credit have been added in (Ellwood, 1988). It is estimated that the costs of the new approach would be more than offset by the savings to government achieved by reducing AFDC costs.

In both Canada and the United States, then, there is some movement away from the welfare systems put in place in earlier decades. The new approaches address some of the problems with the current system — work incentives are improved, tax-based systems can be less stigmatizing and more efficient administratively, and the working poor can be supported. However, many of the questions raised earlier about the guaranteed annual

income persist. A refundable tax credit approach, for example, still represents an income transfer approach to poverty rather than one that emphasizes the development of employment alternatives, although the two are not necessarily incompatible. Rolling back universal programs such as family allowances or broadly applicable tax exemptions in favour of greater targeting raises the prospect that broad political support for income security programs that are seen to benefit a broad spectrum of the population will be eroded. Less obvious to the casual observer in Canada is the regressive move to partially de-index benefits and thresholds so that less real money is paid out and fewer persons qualify. Thus, according to one recent estimate, most types of families will be receiving less real support in 1994 from the work/welfare system than they did a decade earlier, despite greater targeting of spending, if present trends continue (Senate, 1991).

There also remains the concern that the new arrangements in Canada, in conjunction with reform of the UI system, will contribute to the further segmentation of the workforce. We have already noted that a UI system that is returned to strict social insurance principles will be more restrictive, and will exclude some groups with more limited employment opportunities (due to region of residence, for example) or more unstable labour force attachments. The new work/welfare arrangements, if fully implemented along the trajectory outlined above, would perpetuate and worsen, in some respects, the division of the labour force between those who are part of the more or less stable core of the economy and protected in times of unemployment by UI, and those who have more of a peripheral attachment and who need to rely on alternative transfer mechanisms (Bellemare and Poulin Simon, 1988). This division is already reflected by the differences between the present UI system — largely earned through premiums, automatic, broadly available and with a high proportion of wages replaced — and social assistance, which is discretionary in many respects, targeted, demeaning, and providing incomes well below the poverty line. The kinds of changes that are being proposed, however, have the potential to increase substantially the proportion of the unemployed or underemployed who will have no alternative but to rely on social assistance types of transfers, albeit delivered through the tax system to a greater extent than before.

## 5. Assessing Recent Policy Directions

In our review of current policy directions in the work/welfare system, we have noted that progress towards the more complete establishment of the social security welfare state no longer seems to be taking place. Instead, a number of policy initiatives have been undertaken which have recognized changing social and economic conditions. They have, for example, tried to make the work/welfare system more dynamic and transitional — although the programs directed to social assistance recipients in particular are unlikely to move people beyond the unstable, low-wage employment sector. They have also attempted more targeted and more tax-based approaches to providing income support and supplementation.

It is perhaps not surprising, in view of these policy developments, that observers see them as being more consistent with, and encouraging of, a low-wage restructuring of the economy rather than a high-wage restructuring. Myles (1991) argues that these policy developments fit in with the larger pattern of the North American response to competitive pressures since the early 1970s. He suggests that what has been distinctive about the Canadian and U.S. economies in this period has been, first of all, the lack of real wage improvements due to the slowdown in the rate of productivity growth combined with a weakening in the strength of organized labour. Secondly, he points to the capacity in North America to create new jobs at a rate far exceeding what has been accomplished in Japan and Europe. Finally, he points to the continuing decline in the relative and real wages and earnings of those persons assuming the new jobs, especially at the entry level. His interpretation, therefore, is that:

> Since the seventies, welfare state and labour market practices in Canada and the United States have been converging on a competitive strategy based on downwardly flexible labour markets. The success of this strategy has been realized in the form of comparatively high rates of employment growth and its failure in the form of an expanding low-wage working class. Social policy reforms intended to stabilize the incomes of high wage workers (the famous North American "middle class") have been abandoned or put on hold in favour of policies to subsidize the incomes of a growing pool of low wage workers (the "poor"). In the face of rising poverty, slow productivity growth, and rising government deficits, ambitious proposals to provide universal access to health care (in the United States), daycare or better pensions (in both countries) — programs for the middle class as well as the poor — have acquired an aura of utopian fantasy....
>
> A new kind of labour market polarized between a core of well paid technicians and managers, on the one hand, and a larger mass composed of a mixture of low wage workers and an underclass of state dependents appears to be emerging in North America. And rather than setting up barriers to this development, current welfare state practices in Canada and the United States appear to be designed to accommodate it (Myles, 1991).

He goes on to argue that the changes in the welfare state since the mid-1970s are indicative of a retreat to a more classically liberal view of the role of the state in regulating the distribution of wealth and income. That role is, at most, to provide an income floor, and to provide for those who fail in the labour market or who do not participate in it. If this interpretation is correct and if the pattern of social welfare policy continues on this trajectory, then one could conclude that the effort to achieve a high-wage, high-value added restructuring of the economy is not likely to receive much support from the work/welfare system. It is not unreasonable to conclude that much more debate and actual change is taking place with respect to innovation in the workplace and in the education/training systems than has been the case with respect to income security.

There is a substantial body of opinion, however, and much of it has been referred to in this manuscript, that such a low-wage restructuring is the wrong solution, and in fact manifests the decline of North America because of the linkage of this strategy with a form of low-productivity, low-skill, and lower wage production. This position holds out the hope that the pressures of international competition will soon force a different kind of adaptive strategy on North American economies, one that emphasizes increased productivity and high value-added production. Under these circumstances, a different kind of

income security system would be needed, perhaps along the lines suggested earlier in this chapter. There are at least some interesting ideas being discussed. These include the Wisconsin experiment for the support of single-parent families, the Economic Council of Canada's proposal to establish an employment insurance fund, and the Macdonald commission recommendation regarding a transitional adjustment assistance plan. If implemented, they would represent a change in direction toward providing support for a more imaginative, and equitable, form of restructuring.

## Chapter VI

# The Role of Social Policy in Economic Restructuring

There is quite a diversity of opinion on the relevance and role of social policy for economic restructuring. Some take the view that it is largely irrelevant, that economic restructuring is all about hard, technical and measurable things like the adoption of new technology, raising the level of savings and capital investment, or increasing the level of output per worker. If the importance of more social factors is recognized at all, the debate usually begins and ends with the need to improve the education and training of the labour force.

Another point of view, shared widely in the social policy community as well as outside it, is that social policy is relevant mainly in terms of responding to the social problems being created by economic changes. This is the domain of reactive social policy, where the concern is with responding to the persons who have been displaced as resource and manufacturing sectors shed labour, with the development of policy to address the apparently growing inequality of earned incomes, with the problems created by the changing skill demands of the workforce, and so on.

A third perspective, less frequently considered but important nevertheless, is that social policy is important for the smooth functioning of the economy — what we would call the facilitative role of social policy. The latter is usually complementary to, or congruent with, the economic sector in important ways — at least it has been in the past — but some analysts, especially in the United States as we have seen, have argued that social policies developed in the postwar period are now an impediment to economic change and prosperity and need to be changed significantly. Others take the point of view that social policy can make an important positive contribution to the process of restructuring, as

North American economies come to grips with global competition, changing product markets and new technologies.

A final perspective, which we consider under the heading of assertive social policy, is the idea that social policy can not only be facilitative of economic restructuring, but should be aggressive in shaping the direction that such economic reorganization takes.

In this chapter, we discuss reactive, facilitative and assertive social policies and their role in economic restructuring. We believe it is useful to think about social policy in these terms, but it should be understood that these are analytical distinctions; it is quite possible that a particular social policy can embody all three roles.

## 1. Reactive Social Policy

As we noted earlier, perhaps the most straightforward connection between a changing economy and social policy occurs when the former creates new social issues or problems, or exacerbates existing ones, and social policy is expected to respond in a remedial way. While social programs may have several different motivations behind them, certainly the humanitarian motive of relieving suffering is one of the first to be mentioned (Ellwood, 1988; Katz, 1986). It is this role which is uppermost in the mind of the public, and certainly it figures prominently in the rhetoric of politicians. In Chapter II, we reviewed some possible effects of the continuing development of technology on employment, and the resulting problems to which social policy is asked to respond. These included issues of job loss and displacement, changes to skill levels and the distribution of earnings, problems resulting from differential access to employment for groups with different achieved and ascriptive characteristics, and problems of structural unemployment.

Thus a whole host of social policies and programs are implicated in these trends, from policy related to education and training, to labour force policy, to the panoply of programs that address inequality of income and income support. Since specific policies and policy issues have been discussed in earlier chapters, we do not propose to resume that detailed discussion here. Several general comments are in order, however.

First, there is still a good deal of uncertainty in the literature about the changes that are taking place and about the responsible causal forces, thereby making it difficult to identify the most appropriate social policies. With regard to the income polarization thesis, for example, it is only recently that the brunt of the evidence appears to be supporting the hypothesis, and it is still not clear what the main causal factors are. Part of the difficulty is the complexity of the subject matter and the fact that social patterns emerge only slowly over time. Longitudinal research designed to chart the dynamics of a situation over time is necessary, but is seldom available.

Secondly, it might appear on the surface that few of the social problems discussed in Chapter II are new and different. Issues of job displacement, problems of structural unemployment and unequal access to jobs for certain groups are familiar ones and have,

in each case, an established policy debate about how they can best be addressed. At the very least, however, the issues of the new era differ in degree from those that have been faced in the past. They impose new priorities for social policy, and indeed some changes in policy reactive to the new situation are being put in place — adjustment programs for older workers, for example, aid programs for displaced fishermen, a new emphasis on combatting illiteracy and preventing early school leaving, and new tax-based approaches to providing income support. It is our sense, moreover, that there is potentially more than a small shift in emphasis occurring in the nature of the problems to be addressed. The erosion of middle incomes, for example, represents a reversal of a long-term trend toward declining inequalities. In addition, innovative policies will be required to address the elimination of the sorts of jobs that workers with lower education and formal skills could in the past aspire to, usually in the manufacturing and resource sectors, and their replacement by quite a different structure of employment opportunities. There is also an important spatial mismatch to be dealt with, in that many of the jobs being lost are in rural areas and small towns, whereas the expansion of service sector employment is occurring in larger metropolitan areas. Such policies will need to address not only the adjustment needs of the labour force, but also of social institutions and communities.

Finally, in thinking about the economic transitions discussed in the first chapter, one is struck by the extent of change, and the rapidity of change, that has taken place on the economic front in the past 15 years. This raises the question whether governments in North America have the capacity, and the will, to address the attendant social issues, particularly since the more fundamental of these tend to defy short-term solution. Hoerr (1988), in his study of the decline of the U.S. steel industry centred in Pennsylvania, remarks on the rapidity of the decline in comparison, for example, to the decades it took for the New England textile industry to be phased down beginning earlier in this century. The effect of foreign competition and other factors sharply reduced employment in the steel industry in a period as short as five years, yet left a social toll of unemployment, suicides, and broken families whose effects will be felt for generations. Similar stories of job loss and dislocation can be found in many Canadian communities, especially those heavily dependent on resource and manufacturing industries.

It is worth recalling, too, that the invention of the cotton picking machine and its use in the U.S. South, combined with demand for labour in the northern cities, led to a massive northern migration of blacks in the 1940s and 1950s. It also led to a legacy of social problems and issues in the northern inner cities whose problems are not close to being resolved some four decades later. Their lack of resolution, in fact, as evidenced by widespread poverty, family breakdown and the crumbling of social and educational institutions, will also be part of the legacy to future generations. Thus, insofar as social policy is reactive to social problems, the social policy community will have its hands full in coping with the impact of a rapidly changing economic context.

Finally, it is worth emphasizing once again the importance of preventive strategies in minimizing social problems and the extent to which reactive social policies come into play. We can never do without reactive policies, but a view of social policy that restricts its purview to a reactive role is too limited. It is less than adequate from the point of view of those who are affected by economic change, and those who (like social workers) deal with them as clients on a daily basis. It is also unsatisfactory from the point of view of an

effective adjustment to the new, competitive international environment since, as we have seen, effective social organization is such an important aspect of that adjustment.

## 2. Facilitative Social Policy

Social policy is not only reactive to social problems created by the economy. In some respects it is also complementary to the economy in that it helps to address some essentially economic problems, provides some resources, or performs specific functions. S.M. Miller (1987) is of the opinion that this complementary role has increased in recent years, and he gives some examples which he believes contribute to what he disapprovingly calls the "economizing of the welfare state" — that is, the use of social programs and resources as aids or auxiliaries to economic programs, for the achievement of economic objectives. These include the use of social assistance funds for job-training programs or as part of a subsidy to employers who hire recipients, the encouragement to older workers to leave the market by retiring early on pension or disability schemes, or the use of unemployment insurance funds in some jurisdictions to sustain would-be entrepreneurs as they seek to establish a business after a period of unemployment.

Courchene, on the other hand, believes that much still remains to be done in order to make social policies and programs more congruent with economic requirements:

> Economies everywhere are restructuring and the new world trading environment is becoming more, not less, competitive. The rewards are going to those countries that are able to allocate and reallocate resources quickly and efficiently in response to changing world demands . . . specifically, social policy has to facilitate and assist the occupational, industrial and often geographic relocation that the new economics requires of the current generation of Canadians. We no longer have the luxury of designing social policy independently of the underlying economic environment. In particular, we can no longer afford those aspects of the social policy network that serve to impede adjustment or to entrench the status quo. On the other hand, the changing demands on the economic front also create new needs that social policy must address (Courchene, 1987, p.11).

In thinking about the facilitative role of social policy, it is important to be clear on what social policy is being asked to contribute to — what are the objectives, what is the strategy — and in what manner. The issue is likely to be particularly pertinent in Canada in the near future because the federal government is giving every indication that strategies for making Canada competitive in the global economy will be an important feature of public policy in the next several years, and may be a prominent element in the next federal election campaign. No doubt the role of social policy will play a role in this debate.

Under these circumstances, it is important to remember that the social policy realm has its own long-standing objectives, and these should not be subsumed or overridden in the search to meet economic needs, such as achieving greater efficiencies or flexibility in the workplace. Many in the social policy community would disagree with the view that social policy should be driven by economic considerations. They would argue that social systems such as the workplace, the education/training system, and the work/welfare

systems are in fact complex systems that serve a variety of objectives and competing interests. Their goals go well beyond shaping individuals and groups to meet the requirements of the economy, and sometimes they conflict with the latter. In the education field, as noted earlier, such objectives often include personal development, preparing individuals to meet the commitments of relationships in families and with friends, education to meet the responsibilities of participation in a democratic society, and so forth.

In training, too, there are different objectives to be achieved. With management favouring some, and labour others, a successful restructuring of the economy dependent on labour-management cooperation cannot be achieved if too narrow a view is taken of the training function:

> Training is not just an economic issue; it is fundamentally a social equity issue as well. From the vantage point of business or the economy as a whole, training is about increasing international competitiveness and raising the value-added per employee in Ontario. From the worker's perspective, training is about enhancing one's career life chances and economic returns; it is integrally connected to issues of opportunity and personal advancement. This dual context of training is central to the Council's view of the training challenges in the province. An Ontario training strategy must address both the pressing need to improve the province's economic competitiveness, while at the same time increasing the opportunities for all the province's citizens to improve their financial standing and quality of life. Training must therefore address the wealth creation challenge at both the general and individual levels (Premier's Council, 1990).

In the social welfare field, finally, there is a set of goals that sometimes complements but also diverges from and transcends economic imperatives. The goals include the promotion of equality, the fostering of a sense of community, the alleviation of poverty and the maintenance of individual dignity, principles that are often violated by market forces. This carries the further implication that the welfare state and its programs should be autonomous, not subservient or auxiliary to the economic sphere. As S.M. Miller (1987) puts it, "...the social sphere operates on principles other than those of the economic calculus, and symbolizes and carries out the responsibility of a society to all its members."

While many in the social policy community are prepared to recognize that social programs, in order to gain public approval and governmental support, need to be complementary to the requirements of the economy, or at least not consistently damaging to those requirements, they are uncomfortable with a role that draws the connection too closely. This is particularly the case when dominant economic interests use social programs for their own class interests and push for measures that conflict with social objectives.

The challenge for the design of the social policy agenda, therefore, is one of recognizing the new economic imperatives while at the same time taking advantage of opportunities offered by the new economic environment in order to achieve the traditional goals of the social sphere. Haveman (1988) tries to come to grips with the issue in this way, seeking to go beyond the usual retrenchment/expansion debate over social policy to defining the kinds of policies that would achieve both greater equality and greater efficiency. The broad perspective on training cited above would be an example of an approach that serves both objectives. In a similar vein, Osberg (1989) takes a leaf from the environmental movement and argues for social policies in support of sustainable

social development. He has in mind policies consistent with social objectives but of a kind that the economy can afford and which also maintain the social capital on which economic processes depend. Miller (1987), too, is concerned about this issue: "If the system that we call the welfare state is dramatically changed, we should make sure that the goals of relieving poverty and reducing inequalities in an ethic of social responsibility do not wither."

In deciding on the appropriate facilitative role of social policy, it should also be kept in mind that there are different economic responses that can be made to the more competitive environment facing North American firms. In the previous chapter, we spoke of firms responding in terms of static or dynamic flexibility; in several portions of the manuscript, we described firms that sought to become competitive at the cost of labour and their organizations — making labour less well paid and more disposable, avoiding unions, failing to take training requirements seriously — and those that sought to make their entire organization more adaptable, innovative and competitive.

As we have seen, social policy can be facilitative of either strategy; many of the economic imperatives of the new era can be met in different ways, some of which are compatible with traditional social objectives and others of which are not. As we have discussed, there are different ways of developing new relations in the workplace; some may be employer-imposed practices that include only token involvement by workers and that may be motivated in part by a desire to exclude or circumvent unions. Other approaches may be genuinely collaborative, respectful of worker interests and those of their collective organization and resulting in meaningful trade-offs being negotiated. Public policies which set the legal framework for collective bargaining and which can play a role in diffusing new practices, among other steps, can be influential in determining the outcome (Kochan, 1988; Mahon, 1987; Mansell, 1987). Similarly, if there is an argument for making better, fuller use of human resources, this can be done through an active educational/training policy that prevents or at least reduces labour force displacement, or it can be done (as is presently the case) largely in an after-the-fact remedial way, concentrating on those who have already become disadvantaged (Ford Foundation, 1989; Muszynski and Wolfe, 1989).

To take a final example, there are also different ways to achieve flexibility/adaptability of the labour force. Myles (1988b) lays out the alternatives clearly:

> The conservative solution to the problem of "flexibility" is well known. The Fordist institutions that encourage stability also introduce rigidities, both in the labour market and on the shop floor. The welfare state, by stabilizing wages, immunizes workers from market forces, reducing response time to "market signals." Welfare states, regulations and unions create sticky wages at the bottom of the labour market (preventing the creation of low-wage jobs) and too much wage equality (limiting mobility between regions and industries). In sum, the security and equality afforded by the welfare state is an obstacle to innovation.
>
> In contrast, the solution traditionally offered by social democrats and by a growing number of neo-institutional economists and economic sociologists is a welfare state that provides more equality and more security for workers. At least since the Myrdals, it has been part of social democratic lore that the welfare-efficiency "trade-off" would be a positive sum precisely because of the labour flexibility and responsiveness to

> innovation more equality and security would bring. Insecure workers threatened by job loss or a shift from high to low paid work will naturally (and correctly) resist innovation and further development of the productive forces. In contrast, workers confronted with an egalitarian wage distribution and security of employment will welcome and promote structural change.

To summarize, we have argued that social policies for the 1990s and beyond should meet two tests. On the economic front, they should contribute to the resolution of certain characteristic problems faced by national or local economies, or (to put it another way) to the achievement of certain economic objectives. At the same time, they should also not lose sight of the traditional goals of social policy, as noted above. The challenge for the shaping of social policy is to identify and develop those that can meet both the economic and social tests that have been specified.

## 3. Assertive Social Policy

From time to time, we have hinted at a role for social policy that goes beyond being simply reactive to economic trends and one that also goes beyond a role that only facilitates economic restructuring. The more ambitious agenda for the social policy field would be to assume an assertive role that would intervene in the functioning of the economy in order to enhance the prospects that outcomes consistent with the goals of the social sphere can be achieved. We have two types of assertive roles in mind. First, as noted in earlier chapters, social policy needs to be more aggressive in tackling the roots of social problems rather than focusing on the results or the symptoms.

Closely related to this idea is the need to develop social policies that are preventive in nature, that "get ahead of the issue" insofar as possible in order to minimize the social problems that would otherwise result. Earlier we mentioned measures that both firms and workers could take actively to anticipate and prepare for economic restructuring. The Premier's Council also argues against a *laissez-faire* approach to economic and social policy:

> The pace of technological change today is sometimes perceived as undermining workers' skills and threatening their job security. Indeed, rapid technological change can destroy overnight the value of the accumulated skills of a lifetime. Workers who may have thought their acquired expertise left them secure have often been subjected to a wrenching transition to either a lower paying or an entirely new job requiring a decidedly higher level of skill. . . .
>
> . . . we must respond to and manage the restructuring to our advantage. This means making major choices about how that restructuring occurs. We cannot simply stand back and let it happen, for the likely consequences of this passivity will be a lower standard of living, immense social unrest and a legacy of economic "dead-ends" for much of our population. We must actively and purposefully manage the adjustment process so that it supports our industries and workers. To manage it effectively, we will require an education and skills strategy that facilitates adjustment to change and ensures that such change is for the better (Premier's Council, 1990).

What is being suggested, therefore, is that social policy should not only get at the roots of social problems, and act to prevent or minimize their emergence, but also that it should serve to shape the nature of the economic restructuring that takes place. While this may seem a bold step for social policy in these conservative times, it helps to understand that even in North America it has played this role in the past. Social policies have in fact served to limit and shape economic forces, in the process weighing in against economic responses deemed to be undesirable. Kochan and McKersie discuss the *laissez-faire* option in the U.S. context, and reject this role for labour and human resource policy. They argue that assertive policies have an important role to play in influencing the competitive strategies adopted by individual firms. For example, New Deal labour policies which advanced collective bargaining and minimum labour standards required employers to look for comparative advantage in areas other than wage cost minimization. "Faced with externally imposed constraints, employers were forced to look for comparative advantage in other areas of management policy and strategy, such as new product development, increased scale economies, technological change or other productivity producing investments" (Kochan and McKersie, 1989).

While Kochan and McKersie focus above on assertive industrial relations and labour standards policies, they and others are also beginning to make the case that other forms of social policy, such as that pertaining to the education and training of the labour force, can also influence the outcome of the restructuring process:

> We should not delude ourselves. There is nothing easy or automatic about choosing this path of skills-based, higher value added restructuring. Much of our economy is not currently proceeding down that path. Indeed, recent evidence from the Economic Council of Canada and other studies suggest that we are becoming a more unequal society. Earnings have become more polarized over the past two decades and most of the employment expansion of the 1980s has occurred at the two extremes of the skills and compensation spectrum. The number of highly skilled, information-intensive jobs has grown dramatically, but so too have lower skilled, routine jobs, particularly in the traditional services. There is also evidence that our current policies and institutions for developing the skills for our incumbent workforce fall far short of what is required to preserve and expand the high wage economy.
>
> The research undertaken for the Premier's Council has shown that the education and skills of the workforce can affect the direction of restructuring and the types of jobs that result. For example, in retail financial institutions in Germany, where staff are generally well educated and turnover is low, computerization has been putting more information and decision-making into the hands of bank tellers and other front-line staff who use computer terminals as a resource in answering questions about such things as loans and interest rates. In many Canadian and U.S. financial institutions, on the other hand, front-line staff have not generally been thus empowered through interactive technology and training to perform a counselling role to the customer. North American institutions explain their reluctance to develop more technologically adept personnel by citing concerns about high turnover and the often low expectations they have of new workers' capabilities .... By encouraging and investing in the continuous growth and training of its people, Ontario can influence the outcomes of restructuring and technological change to achieve more skilled and rewarding work for those affected by these phenomena (Premier's Council, 1990).

Thus social policy has in the past been assertive — and perhaps can again in the future — *vis-à-vis* the economy. It requires, however, a clear vision of economic and social objectives and their interrelationship.

The role that social policy plays in economic restructuring will also depend, of course, on the outcome of contests that are essentially political in nature, and on the mediating influence of institutions through which the policy debate is processed. In the concluding chapter, we will discuss briefly some ideas concerning the impact of economic restructuring not only on the substance, but also on the process, of social policy change. We will also consider the prospects for social policy change as the North American economies continue to be strongly influenced by a changing economic environment.

## Chapter VII

# Conclusion: The Process and the Prospects of Social Policy Change

In a recent article, Banting (1989) draws an analogy between the huge, sometimes shifting, tectonic plates of the earth's crust and the economic, political and social foundations of the modern welfare state. When these foundations shift significantly, as they have in the 1970s and 1980s, one can expect to see the resulting tremors affecting the substance of social policy, as we have seen. Such basic changes are also likely to affect the process of social policy formation. In this section, we will continue to pay particular attention to the changing economic base for social policy, but delineating now several implications for the manner in which, and by whom, social policy is formulated. We will also make a few remarks about the prospects of social policy change under these new conditions.

## 1. The Process of Social Policy Change

In the first place, it appears that all governments are likely to be more constrained than they have been in the past. One implication of this is that parts of their traditional roles may well be delegated to other parties, such as business, labour, and community organizations. This is particularly the case for the federal level in both Canada and the United States, where it is unlikely that major new policy initiatives will be forthcoming. Certainly the record of the 1970s and 1980s has not been encouraging in this respect at the federal level, although there have been some interesting initiatives at the state level in the United States (Osborne, 1988), and to some extent in Canada. It is not just a

matter of being burdened by debt, although that is an important factor in explaining the wide gap that exists between the rhetoric of politicians and the reality of funding for social and other programs. It is also the result of the new constraints imposed by globalization — the continued growth of world-scale companies and the transnational collaboration among them — which decrease the importance of national boundaries; the increase in the mobility of capital and wealth which, along with competition from low-wage countries, places further limits on the prospects of progressive taxation; the more pronounced international implications of national economic policy decisions, which limit the independence of fiscal and monetary policy; and the constraints imposed, or likely to be imposed, by international agreements such as the General Agreement on Tariffs and Trade (GATT) and the Canada-U.S. Free Trade Agreement on matters such as tariffs, subsidies, and measures to promote regional development (Simeon, 1988; Dobell, 1990).

Not everyone agrees, however, that the state's role, especially at the federal level, is becoming more constrained. As the strength of the labour movement continues to decline in the United States, thereby weakening an important force for progressive social policy and protection for vulnerable groups, it is suggested that government will fill the void through a more active policy and regulatory role. The passage of legislation by the U.S. Congress in favour of a modest increase in the minimum wage, reform of the social welfare system, and providing advance notice of plant closings, is taken as evidence of this point of view. Kochan and McKersie, however, feel that a national regulatory role is the wrong direction to take, in part because they question whether government agencies can cope with the task of enforcing additional government regulations. They also question whether the expansion of government regulations (which are applied uniformly across states or the nation as a whole) can cope with the enormous complexity and diversity of employment settings in a modern economy:

> ... the inherent advantages of encouraging the parties to employment relationships (i.e., management and labour) to shape employment conditions to their own needs and circumstances are, in all likelihood, even greater today than in the 1930s. While it may indeed be time once again to take steps to insure that individual worker interests are adequately addressed in employment relationships, we need to search for the most efficient and flexible system for addressing these issues (Kochan and McKersie, 1989, p. 224).

This comment is consistent with our earlier discussion of likely changes in the Canadian system of vocational and job-related training. It would appear that in this field, as well, much more responsibility will be assumed by management and labour, who will be the key players in national, provincial and local (or sectoral) bodies that will control the design and implementation of job-related training programs. In the income security system, finally, the more limited role of government is reflected, of course, in the initiatives to privatize, contract out, or devolve public programs to the private sector or to non-profit community agencies. It is probable that larger businesses, too, will be interested in playing a stronger role in the provision of social services and benefits as part of their strategy to create the kind of committed, involved workforce that is central to their competitive strategy.

This brings us to the question, then, whether we will also see a more decentralized form of social policy making, involving a stronger role for provincial, state or local

governments, and greater reliance on interaction with business, labour, and other non-governmental groups. Simeon (1988) argues that the Canadian institutions of government need to cope with two somewhat opposing challenges. On the one hand, he cites the changing global environment (involving pressures arising from greater competition, technological change, the decline of U.S. hegemony, and so forth) which, he believes, impose constraints on the national government but also push it in the direction of emphasizing greater efficiency, greater coordination, perhaps even greater centralization and restricted democracy. On the other hand, he notes the changing domestic society characterized by certain demographic trends, by the continued importance of regional and language divisions, by the mobilization of new groups such as women and racial minorities, and by the resulting changes in the conception of Canadian society. These pressures lead to greater concerns with equity, social justice, the redistribution of income, the pluralism and diversity of the country, and participation in decision making. "Thus domestic political conflict is best understood as the interaction of external forces with the already existing cleavages and divisions within Canada's regionally differentiated society" (Simeon, 1988).

It is not clear, however, that the international economic and political forces are necessarily centralizing in their effects. Sabel (1989) takes the opposite point of view. He argues that, as international competition has increased and world markets have fragmented, firms have become more and more reticent to make long-term investments in product-specific machinery lest the market disappear before the equipment's cost has been recovered. Under these conditions, as we have seen, they experiment with flexible forms of organization which permit rapid shifts in output. The requirements of flexible production affect both the internal organization of the firm, as we have seen in an earlier chapter, and their external relations — including their relations with other firms and with governments.

He places particular emphasis on the reconsolidation of the region as an integrated unit of production, within which firms develop cooperative networks among themselves and often create some common institutions such as research, credit, or education/training facilities, as they attempt to respond in a flexible manner to a highly competitive and rapidly changing environment. Local or state/regional governments may help to contribute to the success of such regional industrial districts:

> ... local or regional authorities have comprehensive plans for economic revitalisation which overlap substantially with the more conscious practices of the new industrial districts. On the one hand, they encourage the formation of consortia of firms with complementary specialties. On the other, they provide an infrastructure of permanent innovation at the service of the new firm groups. At a minimum, the infrastructure plans call for vocational schools and research institutes. But they also provide for superbly maintained roads and other transportation facilities to ensure operation of just-in-time production systems; "one-stop" negotiation of health and safety, unemployment insurance, and other social welfare regulations which take account of the ways firms are beginning to reduce insurance costs to the public through preventive medicine or job guarantees (Sabel, 1989).

The continued development of regional industrial districts, and the restructuring of large corporations to achieve greater flexibility, may well lead to more locally or regionally based interactions between firms and governmental authorities or institutions with a

view to the development of economic and social policies that will assist such firms to become competitive, or to maintain their competitiveness. We have already seen this pattern in operation in the education/training field as community colleges are pressed to be more responsive to the training needs of firms in their region.

This thrust toward more locally based and more flexible policy making comes at a time when, as noted above, federal governments are more constrained in the exercise of their macroeconomic policy levers. Simeon agrees that, for this reason as well, more emphasis may be placed in future on provincial microeconomic policies such as those pertaining to education, training, labour relations, land use planning and the supply of amenities and services such as health care, as the policy mechanisms through which adjustments to global competition are made.

If this is the case, then we may see in Canada some rearrangement of federal-provincial powers. This might involve giving the provinces more clear-cut authority over policies such as manpower training, immigration, worker adjustment programs, or income support. The appropriate federal role under these conditions would include the coordination of economic and social policy in order to meet global pressures, the setting of national standards so as to avoid undue inequalities and lack of fit across jurisdictions, and continued attention to regional equalization or "risk insurance" policies to cushion regions whose economic fortunes decline for a period of time in a more volatile global trading context (Sabel, 1989). Indeed, some steps in the direction of decentralized powers have already taken place (e.g., the recent agreement on immigration with Quebec) and much of the current constitutional debate is taken up with the division of powers issue.

Finally, it is the thrust of this chapter — indeed of the entire manuscript — that social and economic policies need to be considered together, and increasingly so. This is the case not only because economic policy has significant social consequences, which requires a perspective on social policy that is not only ameliorative in purpose but also preventive in orientation. It is also because effective economic functioning in the contemporary context is inextricably tied to social considerations. At the micro level, as Dobell (1984-1985) points out, overall efficiency and long-term returns on investment depend on morale, motivation, commitment and social organization as well as on machines. At the societal level, when it comes to a choice of appropriate social and economic policies, an integrated perspective is equally relevant. We have argued, however, that it is important to have a clear overall vision of where an integrated set of economic and social policies is to take us, and also that social objectives need to be achieved as well as economic ones.

## 2. The Prospects for Social Policy Change

While governments may be more constrained in what they can do with respect to social and economic policy, nevertheless it is far from clear that a *laissez-faire* approach is the best response to the inexorable competitive, market and technological pressures that continue to develop. We may be able to transcend past conceptions, however, about how

active governments should be in relation to the market and the private sector. The long-standing debate about whether government should develop and implement an industrial policy, for example, now seems outdated in that few would support the degree of governmental direction and central planning that such a policy would entail. On the other hand, the traditional liberal conception of the state, with its emphasis on minimal intervention, also seems wide of the mark in view of the extremely competitive international trading environment and the supportive, even directive, role played by governments in other countries.

What could realistically emerge in North America is a state role that stops well short of the "capitalist development state" of Korea or Japan but that does include, on the economic front, a strategic vision of a country's strengths and weaknesses, a sense of what sectors are important to protect and advance, where there might be areas of competitive advantage that might be nurtured, and what strategic initiatives might be taken to support the private sector in seeking to enhance its ability to compete internationally. Examples of the kinds of measures which are advocated include the modification of anti-trust laws to permit the formation of consortia, support of research and development through the provision of grants and tax incentives, helping with the diffusion of technology to smaller firms, using government procurement policy in a strategic manner to support the development of competitive capacity, and a number of other policies and programs as noted in earlier chapters.

To the extent that social issues are important in this competitive context, and we have argued for their considerable relevance, it would also be useful to develop a strategic perspective on social policy issues. Such an analysis would suggest, for example, that new forms of work organization, industrial relations and interrelationships among firms need to be encouraged. It would recommend that steps need to be taken to utilize human resources effectively and creatively in North America. It would recognize that the failure of our societies to resolve some significant social problems — for example, the continuing dualism of the income security system, or the racial, ethnic and gender relations issues that strain the cohesion and drain the resources of both countries — is as much of a handicap as any technical, scientific or entrepreneurial shortcoming. Certainly that is the view of those who regard North America from beyond its borders (Fallows, 1989).

The prospect that an integrated set of economic and social policies will be adopted, congruent with and supportive of a clear vision of a high-wage, high value-added form of restructuring, depends on several elements. Perhaps the strongest argument in its favour is the continuing pressures that the North American economies will face from the kinds of forces described in Chapter I — pressures that threaten North American industries through competition from Europe, Japan, and the newly industrializing countries of the Third World, that present them with rapidly changing product markets, and that challenge them with new, highly productive and flexible technologies.

This needs to be combined with the realization that the institutions and policies established for the era of mass production will no longer suffice, nor will the interim approaches that have been attempted since the mid-1970s.

Certainly the argument for, and the outline of, a competitive, high wage restructuring route has been clearly articulated in the last two years by reports such as those emanating from the MIT Commission on Industrial Productivity in the United States, and from the Premier's Council in Canada. Important segments of the Canadian and U.S. economies are proceeding, with some success, down this path. In Canada, too, significant advisory bodies (which have typically involved both labour and management input) have added their weight and recommendations to such a restructuring. In addition to the Premier's Council, the groups include the Economic Council of Canada, the Canadian Labour Market and Productivity Centre, and the National Advisory Board on Science and Technology.

Nevertheless, large portions of both economies are adapting to competitive pressures by adopting what was called, in an earlier chapter, "static flexibility" strategies involving the use of lower cost and more disposable labour, among other features. Governments, too, are far from providing the leadership and policies that would favour a "dynamic flexibility" form of response. Whether more appropriate social and economic policies will emerge will, no doubt, depend not only on external competitive pressures but also on the outcome of struggles in the political arena. At the level of the individual firm, labour-management negotiations about changes in the organization of work, the introduction of technology, the development of training, or the revision of compensation arrangements will be important. Some case studies which have examined how different firms in the same industry have variously adjusted to the changing environment have been instructive. Among other findings, these studies suggest that the local history and culture of labour-management relations exert an important influence on the outcome (Locke, 1987; Berger, 1990; Skocpol *et al.*, 1988).

At the level of national public policy, the process by which particular policy outcomes are achieved remains the subject of research. Comparative, cross-national studies carried out largely by European scholars tend to focus on differences in political and economic structure. Outcomes such as more generous levels of welfare state spending are associated with factors such as the strength of organized labour, whether leftist parties have held power, whether the state is unitary rather than federal, and the degree of exposure of the economy to shifts in international conditions. On these criteria, Canada and the United States do not, for the most part, rate very well, with the United States further handicapped in comparison to Canada by the declining strength of the labour movement, among other factors (Martin, 1986; Banting, 1987).

More recent writing in the United States, proceeding from an institutionalist perspective within the social sciences, finds the European analysis does not go far enough nor does it interpret the North American experience very well. Skocpol *et al.* (1988) write that comparative analysis may help to explain why a higher level of social welfare spending takes place in one country rather than another. It is less helpful, however, in explaining why, within a country, some policies are accepted and others not, why the movement toward a more mature welfare state has stopped short of completion, why there are spurts of reform and then backlash against them. These kinds of questions, they suggest, are perhaps better answered by examining not only the role of business and labour but also the role of other groups (such as those defined by race and gender) acting individually or in coalitions; the role of states *vis-à-vis* the federal government; how social

policy is shaped not only in response to changing socio-economic conditions but also on the basis of — or in reaction to — previous policy accomplishments; and how the specifics of the institutional structure and the policy process influence the outcome — for example, the role of the U.S. South in shaping the formation and implementation of social policies. Case studies of social policy reform in Canada support the validity of these observations (Leman, 1980).

Thus the process of social policy formation is complex, and there is much about it that we do not yet understand. Nevertheless, within the North American context, the probability of Canadian governments developing the policies to advance a high-wage, high value-added restructuring is probably higher than it is in the United States. Neo-conservative solutions have been advanced less vigorously in Canada and have had less impact; labour unions have maintained and even increased their numerical strength in the past several decades and are somewhat more likely to be recognized as part of the solution to competitive problems, although often grudgingly. In addition, Canadian social policies are, for the most part, less removed from the ideal that would be required to support a high-wage restructuring than is the case in the United States, despite recent inroads on their universalistic character. For example, Myles (1991) points out that earnings inequalities have increased in both Canada and the United States, in recent years but Canadian redistribution policies have served to contain and negate these tendencies, in contrast to the situation in the United States. The pattern of labour-management involvement and cooperation that has been established on bodies such as the Premier's Council and the Canadian Labour Market and Productivity Centre, and which has now been carried forward to their joint representation on the new Canadian Labour Force Development Board, may well signal a change in direction for the country and one that will be reflected in other areas of social and economic policy.

We suspect, however, that the case for a new set of social policies will need to be made in realistic and practical terms, rather than on the basis of abstract and ideological considerations. It will need to be established that such policies do indeed contribute to a more competitive and productive economy, and in this respect it will be important to undertake the research that would further examine the role of social factors and social policy in economic restructuring.

It will also be important to have an assertive, well informed social policy community to make the case that there are choices in economic restructuring, that social policy is an important element in the process, and that the longstanding objectives of the social sphere should continue to be met by the new social and economic arrangements that are put into place, rather than being abandoned.

# References and Selected Readings


Abella, Judge Rosalie S. 1988. "Comments on the Future of Industrial Relations." Paper presented to the conference *Perspective 2000*. Ottawa: Economic Council of Canada, November 30-December 1.

Adams, R.J. 1988. "The Old Industrial Relations and Corporate Competitiveness: A Canadian Case." *Employee Relations*, Vol. 10, No. 2.

Albin, Peter and Eileen Appelbaum. 1988. "The Computer-Rationalization of Work." In Jane Jensen *et al.*, *Feminization of the Labour Force*. New York: Oxford University Press.

Amsden, Alice. 1989. "Asia's Next Giant: How Korea Competes in the World Economy." *Technology Review*, Vol. 92, No. 4, May/June.

Armitage, Andrew. 1975. *Social Welfare in Canada*. Toronto: McClelland and Stewart.

Baily, Martin and Alok Chakrabarti. 1988. *Innovation and the Productivity Crisis*. Washington: The Brookings Institution.

Banting, Keith. 1987. "The Welfare State and Inequality in the 1980s." *Canadian Review of Sociology and Anthropology*, Vol. 24, No. 3, August.

Banting, Keith. 1989. "Looking Back: The Political Economy of Social Policy in the 1990s." Toronto: Keynote Address to the *4th National Conference on Social Welfare Policy*, October 24-27.

Baran, Barbara. 1985. "Office Automation and Women's Work: The Technological Transformation of the Insurance Industry." In Manuel Castells, ed., *High Technology, Space and Society*. Beverly Hills: Sage Publications.

Barnow, Bert. 1987. "The Impact of CETA Programs on Earnings: A Review of the Literature." *Journal of Human Resources*, Vol. 22, Spring.

Battle, Ken. 1990. "Child Benefits Reform." A report prepared for the Standing Senate Committee on Social Affairs. Ottawa: Science and Technology.

Beach, Charles. 1988. "The Vanishing Middle Class? Evidence and Explanations." Madison, Wis.: University of Wisconsin, Institute for Research on Poverty.

Bell, Daniel. 1973. *The Coming of Post-Industrial Society: A Venture in Social Forecasting*. New York: Basic Books.

Bellemare, Diane and Lise Poulin Simon. 1988. "Full Employment: A Strategy and an Objective for Economic Policy." In Duncan Cameron and Andrew Sharpe (eds.), *Policies for Full Employment*. Ottawa: Canadian Council on Social Development.

Berger, Suzanne. 1973. "The Uses of the Traditional Sector: Why the Declining Classes Survive." Cambridge, Mass.: Massachusetts Institute of Technology, Department of Political Science.

Betcherman, Gordon, and Kathryn McMullen. 1986. *Working with Technology: A Survey of Automation in Canada*. Ottawa: Minister of Supply and Services.

Betcherman, Gordon, Keith Newton and Joanne Godin (eds.). 1990. *Two Steps Forward: Human Resource Management in a High Tech World*. Ottawa: Economic Council of Canada, Minister of Supply and Services.

Bjorklund, Anders. 1986. "Policies for Labour Market Adjustment in Sweden." Stockholm: The Industrial Institute for Economic and Social Research.

Black, Don, and John Myles. 1986. "Dependent Industrialization and the Canadian Class Structure: A Comparative Analysis of Canada, the United States, and Sweden." *The Canadian Review of Sociology and Anthropology*, Vol. 23, No. 2.

Blank, Rebecca. 1988. "Recent Trends and Features in Unemployment." Paper presented at the *Industrial Relations Research Workshop*, MIT, Cambridge, Mass., September 20.

Bluestone, Barry and Bennett Harrison. 1982. *The Deindustrialization of America*. New York: Basic Books.

Bluestone, Barry, and Bennett Harrison. 1989. "Increasing Inequality and the Proliferation of Low-Wage Employment in the U.S.: A Review of the Debate and Some New Evidence." Cambridge, Mass.: Boston College, Department of Economics.

Bok, Derek. 1986. *Higher Learning*. Cambridge, Mass.: Harvard University Press.

Boyd, Monica. 1990. "Employment and Skill: Men and Women in Canada's Service Economy." Paper presented to the *Annual Meeting of the Canadian Sociology and Anthropology Association*, Victoria, B.C., May.

Boyer, Ernest. 1987. *College: The Undergraduate Experience in America.* The Carnegie Foundation for the Advancement of Teaching. New York: Harper and Row.

Braverman, H. 1974. *Labor and Monopoly Capital*, New York: Monthly Review Press.

Brody, David. 1960. *Steelworkers in America: The Nonunion Era.* Cambridge, Mass.: Harvard University Press.

Brooks, Harvey, *et al.* 1984. *Technology and the Need for New Labour Relations.* Cambridge, Mass.: John F. Kennedy School of Government, Harvard University.

Brooks, Harvey. 1985. "Technology as a Factor in U.S. Competitiveness." In Bruce Scott and George Lodge (eds.), *U.S. Competitiveness in the World Economy.* Boston, Mass.: Harvard Business School Press.

Brooks, Harvey and Leslie Schneider, with Keichi Oshima. 1986. *Potential Impact of New Manufacturing Technology on Employment and Work in Industrial and Developing Countries.* Cambridge, Mass.: John F. Kennedy School of Government, Harvard University.

Brooks, Harvey and Lewis Branscomb. 1989. "Rethinking the Military's Role in the Economy." *Technology Review*, Vol. 92, No. 6, August/September.

Burkhauser, Richard, and Greg Duncan. 1988. "Life Events, Public Policy, and the Economic Vulnerability of Children and the Elderly." In John Palmer *et al.*, *The Vulnerable.* Washington: Urban Institute Press.

Business Council on National Issues. 1986. *Social Policy Reform and the National Agenda.* Ottawa.

Cameron, Duncan, and Andrew Sharpe (eds.). 1988. *Policies for Full Employment.* Ottawa: Canadian Council on Social Development.

Canada. 1989. *Adjusting To Win*, The Report of the Advisory Council on Adjustment. Ottawa: Minister of Supply and Services.

Canadian Auto Workers. 1990. *CAW Statement on the Reorganization of Work.* North York, Ont.: The Canadian Auto Workers' Research Department.

Canadian Council for Social Development. 1987. "Proposals for Discussion: Phase One — Income Security Reform." Ottawa: Working Paper No. 8, *Work and Income in the Nineties*, Canadian Council for Social Development.

Canadian Employment and Immigration Advisory Council. 1989. *Regional Unemployment in Canada: A Nation Out of Balance.* Interim Report. Ottawa.

Canadian Institute of Advanced Research. 1988. *Innovation and Canada's Prosperity: The Transforming Power of Science, Engineering and Technology*. Toronto: The Canadian Institute for Advanced Research.

Carr, Shirley. 1990. "Opening Statement by Shirley Carr to the Special Committee of the Senate on Bill C-21." Ottawa: Canadian Labour Congress.

Chaykowski, Richard P., and George A. Slotsve. 1988. "The Transformation of Internal Labour Markets: A Case Study of a Unionized Industrial Firm." Unpublished paper.

Clark, Kim, Bruce Chew, and Takahiro Fujimoto. 1987. "Product Development in the World Auto Industry: Strategy, Organization and Performance." *Brookings Papers on Economic Activity*, No. 3, pp. 729-781. Washington: The Brookings Institution.

Clement, Wallace. 1981. *Hardrock Mining: Industrial Relations and Technological Change at Inco*. Toronto: McClelland and Stewart.

Cohen, Dian and Kristin Shannon. 1984. *The Next Canadian Economy*. Montreal: Eden Press.

Cohen, Stephen and John Zysman. 1987. *Manufacturing Matters: The Myth of the Post-Industrial Economy*. New York: Basic Books.

Commission of Inquiry on Unemployment Insurance. 1986. *Report*. Ottawa: Supply and Services Canada.

Commission Working Group on the Textile Industry. 1989. *The U.S. Textile Industry: Challenges and Opportunities*. Cambridge, Mass.: MIT Commission on Industrial Productivity.

Conklin, David W. and France St-Hilaire. 1988. *Canadian High-Tech in a New World Economy: A Case Study of Information Technology*. Halifax: The Institute for Research on Public Policy.

Corbett, Thomas, *et al.* 1989. "Learnfare: The Wisconsin Experience." *Focus*. Institute for Research on Poverty, University of Wisconsin, Vol. 12, No. 2.

Côté, Marcel. 1988. "The Competitiveness of the Canadian Economy to the Year 2000." Paper presented to the conference *Perspective 2000*. Ottawa: Economic Council of Canada, November 30-December 1.

Cottingham, Phoebe and David Ellwood. 1989. *Welfare Policy in the 1990s*. Cambridge, Mass.: Harvard University Press.

Courchene, Thomas. 1987. *Social Policy for the 1990s: Agenda for Reform*. Scarborough: Policy Study No. 3, C.D. Howe Institute, Prentice-Hall Canada.

Cyert, Richard M. and David C. Mowery (eds.). 1987. *Technology and Employment: Innovation and Growth in the U.S. Economy*. Washington: National Academy Press.

Danziger, Sheldon. 1989. "Fighting Poverty and Reducing Welfare Dependency." In David Ellwood and Phoebe Cottingham (eds.), *Welfare Policy for the 1990s*. Cambridge, Mass.: Harvard University Press.

Danziger, Sheldon and Daniel Weinberg. 1986. *Fighting Poverty: What Works and What Doesn't*. Cambridge, Mass.: Harvard University Press.

Davies, Annette. 1986. *Industrial Relations and New Technology*. Dover, N.H.: Croom Helm.

Dertouzos, M., Richard Lester and Robert Solow, *et al.* 1989. *Made In America*. Cambridge, Mass.: MIT Press.

Dobell, A.R. 1984-85. "Politics and Economics in British Columbia." *Journal of Business Administration*, Vol. 15.

Dobell, A.R. 1989. "The Global Bargain." *Policy Options*, Vol. 10, No. 10, December.

Dobson, Wendy. 1990. "Workers' Wages Key to Economy's Health." Toronto: *The Globe and Mail*, September 3.

Doeringer, Peter, and Michael Piore. 1971. *Internal Labor Markets and Manpower Analysis*. Lexington, Mass.: D.C. Heath.

Doggett, Wayne. 1987. Presentation to the Sub-Committee on Training and Employment. Senate of Canada, Ottawa, May 13.

Drover, Glenn (ed.). 1988. *Free Trade and Social Policy*. Ottawa: The Canadian Council for Social Development.

Economic Council of Canada. 1987. *Innovation and Jobs in Canada*. Ottawa: Minister of Supply and Services.

Economic Council of Canada. 1988. *Back to Basics: Twenty-Fifth Annual Review*. Ottawa: Minister of Supply and Services.

Economic Council of Canada. 1990. *Good Jobs, Bad Jobs: Employment in the Service Economy*. Ottawa: Minister of Supply and Services.

Ellwood, David. 1988. *Poor Support: Poverty in the American Family*. New York: Basic Books.

Ford Foundation. 1989. *The Common Ground: Social Welfare and the American Future*. New York: The Ford Foundation.

Forester, Tom. 1987. *High-Tech Society*. Cambridge, Mass.: MIT Press.

Freeman, Richard B. 1988. "Canada in the World Labour Market to the Year 2000." Paper presented to the conference *Perspective 2000*. Ottawa: Economic Council of Canada, November 30-December 1.

Garfinkel, Irwin. 1985. "Child Support Assurance: A New Tool for Achieving Social Security." Unpublished paper.

Gerver, Elizabeth. 1989. "Computers and Gender." In Tom Forester (ed.), *Computers in the Human Context: Information Technology, Productivity and People*. Cambridge, Mass.: MIT Press.

Gill, Colin. 1985. *Work, Unemployment, and the New Technology*. Cambridge, U.K.: Polity Press.

Gindin, Sam and David Robertson. n.d. "Democracy and Productive Capacity: Notes Towards an Alternative to Competitiveness." North York, Ont.: The Canadian Auto Workers' Research Department.

Goodman, Paul and Terri Griffith. 1989. "Implementation of New Technology." Pittsburgh: Center for the Management of Technology, Graduate School of Industrial Administration, Carnegie Mellon University.

Gray, Paul. 1987. "Seeking Educational Synergy." *Technology Review*, October.

Grude, Jan, Lars Osberg and Fred Wien. 1991. "Disadvantaged Workers in a Competitive, Technology-Driven Economy: Firm Case Studies from Rural Nova Scotia." Paper presented to the *Annual Meeting of the Canadian Sociology and Anthropology Association*, Kingston, Ont., June.

Gueron, Judith. 1987. "Reforming Welfare With Work." Occasional Paper 2, Ford Foundation Project on Social Welfare and the American Future. New York: The Ford Foundation.

Guest, Dennis. 1985. *The Emergence Of Social Security in Canada*. Vancouver: University of British Columbia Press.

Hacker, Andrew. 1988. "American Apartheid." New York: Rea S. Herdeman, *The New York Review of Books*.

Harrison, Bennett and Barry Bluestone. 1988. *The Great U-Turn: Corporate Restructuring and the Polarizing of America*. New York: Basic Books.

Haveman, Robert. 1988. *Starting Even: An Equal Opportunity Program to Combat the Nation's New Poverty*. New York: Simon and Schuster.

Heaton, George. 1989. "Cooperative Technology Development Among Nations, Firms and Sectors." Presentation to the *Symposium on The Technology Development Process: An International Comparative Perspective*, MIT, Cambridge, Mass.

Heilbroner, Robert. 1989. "Reflections: The Triumph of Capitalism." *The New Yorker*. January 23.

Helliwell, John. 1988. "Globalization and the National Economy." Paper presented to the conference *Perspective 2000*. Ottawa: Economic Council of Canada, November 30-December 1.

Hirschhorn, Larry. 1988. *Beyond Mechanization: Work and Technology in a Post-Industrial Age.* Cambridge, Mass.: MIT Press.

Hoerr, John. 1988. *And the Wolf Finally Came: The Decline of the American Steel Industry.* Pittsburgh: University of Pittsburgh Press.

House, J.D. 1988. "Outports and the Microchip: Peripheral Regions in a Post-Industrial Age." In Berkeley Fleming (ed.), *Beyond Anger and Longing: Community and Development in Atlantic Canada.* Fredericton: Acadiensis Press.

Howard, Robert. 1985. *Brave New Workplace.* New York: Penguin Books.

Hunter, Alfred and Michael Manley. 1986. "On the Task Content of Work." *Canadian Review of Sociology and Anthropology*, Vol. 23, No. 1.

Iacobacci, Mario and Mario Seccareccia. Forthcoming. "Full Employment Versus Income Maintenance: Some Reflections on the Macroeconomic and Structural Implications of a Guaranteed Income Program for Canada." *Studies in Political Economy.*

Informetrica. 1988. *Monthly Economic Review.* Ottawa, December.

Jacobs, James. 1989. "Training the Workforce of the Future." *Technology Review*, Vol. 92, No. 6, August/September.

Jaikumar, J. 1986. "Postindustrial Manufacturing." *Harvard Business Review*, November-December.

Johnson, A.W. 1987. "Social Policy in Canada: The Past as it Conditions the Present." In Shirley Seward (ed.), *The Future of Social Welfare Systems in Canada and the United Kingdom.* Halifax: The Institute for Research on Public Policy.

Johnston, Richard. 1986. *Public Opinion and Public Policy in Canada: Questions of Confidence.* Toronto: University of Toronto Press.

Johnston, William. 1987. *Workforce 2000: Work and Workers for the 21st Century.* Indianapolis: The Hudson Institute.

Jordan, Bill. 1982. *Mass Unemployment and the Future of Britain.* Oxford: Basil Blackwell.

Kammerman, Sheila, and Alfred Kahn. 1988. "What Europe Does for Single Parent Families." *Public Interest* 93, Fall.

Katz, Michael. 1986. *In the Shadow of the Poorhouse: A Social History of Welfare in America.* New York: Basic Books.

Kazis, Richard. 1989. *Education and Training in the United States.* Cambridge, Mass.: MIT Commission on Industrial Productivity Working Paper.

Kelley, Maryellen. 1986. "Programmable Automation and the Skill Question: A Reinterpretation of the Cross-National Evidence." *Human Systems Management*, Vol. 6, pp. 223-241.

Kelley, Maryellen R., and Harvey Brooks. 1988. *The State of Computerized Automation in U.S. Manufacturing*. Cambridge, Mass.: John F. Kennedy School of Government, Harvard University.

Kochan, Thomas. 1988. "Looking to the Year 2000: Challenges for Industrial Relations and Human Resource Management." Paper presented to the conference *Perspective 2000*. Ottawa: Economic Council of Canada, November 30-December 1.

Kochan, Thomas, Harry Katz, and Robert McKersie. 1986. *The Transformation of American Industrial Relations*. New York: Basic Books.

Kochan, Thomas and Robert McKersie. 1989. "Future Directions for American Labour and Human Resources Policy." *Relations Industrielles*. Vol. 44, No. 1.

Kuhn, Sarah. 1987. *From the Back Office to the Front Lines: The Computer Software Development Process in a Changing Business Environment*. Unpublished PhD Thesis, Department of Urban Studies and Planning, MIT.

Kumar, Pradeep, and Dennis Ryan. 1988. *Canadian Union Movement in the 1980s: Perspectives from Union Leaders*. Research and Current Issues Series No. 53. Kingston, Ont.: Industrial Relations Centre, Queen's University.

Kutscher, Ronald. 1987. "Overview and Implications of the Projections to 2000." *Monthly Labor Review*, September, Vol. 110, No. 9, pp. 3-9.

Kuttner, Robert. 1983. "The Declining Middle." *The Atlantic Monthly*, July.

Leckie, Norm. 1988. *The Declining Middle and Technological Change: Trends in the Distribution of Employment Income in Canada, 1971-84*. Discussion Paper No. 342. Ottawa: The Economic Council of Canada.

Leckie, Norm, and Keith Newton. 1989. "Employment Effects of Technological Change." *New Technology, Work and Employment*, Vol. 2, Fall.

Leman, Christopher. 1980. *The Collapse of Welfare Reform: Political Institutions, Policy and the Poor in Canada and the United States*. Cambridge, Mass.: MIT Press.

Lemann, Nicholas. 1986. "The Origins of the Underclass." *The Atlantic*, June and July.

Leontief, Wassily and Faye Duchin. 1986. *The Future Impact of Automation on Workers*. New York: Oxford University Press.

Lerman, Robert. 1987. "Child Support and Welfare Dependency." Unpublished paper.

Levitan, Sar, and Isaac Shapiro. 1987. *Working But Poor: America's Contradiction*. Baltimore: Johns Hopkins University Press.

Levy, Frank. 1987. "Industrial Structure," in *Dollars and Dreams: The Changing American Income Distribution*. New York: Russell Sage Foundation.

Lightman, Ernie and Allan Irving. 1991. "Restructuring Canada's Welfare State." *Journal of Social Policy*, Vol. 20, No. 1, pp. 65-86.

Locke, Richard. 1987. "Redrawing the Boundaries of Italian Union Politics." Working Paper. Cambridge, Mass.: The Center for International Studies, MIT.

Loveman, Gary. 1988. "Structural Change and the Composition of Manufacturing Employment." Cambridge, Mass.: Department of Economics, MIT.

Loveman, Gary, Michael Piore and Werner Sengenberger. 1988. "The Evolving Role of Small Business in Industrialized Economies and Some Implications for Employment and Training Policy." Cambridge, Mass.: International Institute for Labour Studies and MIT.

Lush, Patricia. 1990a. "Just-in-Time Pays Off For Auto Sector." Toronto: *The Globe and Mail*, February 21.

Lush, Patricia. 1990b. "Unions, Middle Managers Balk at Employee Involvement Plans." Toronto: *The Globe and Mail*, February 24.

Lush, Patricia, and Geoffrey Rowan. 1990. "Goodbye to Neckties and Forklifts." Toronto: *The Globe and Mail*, February 19.

MacMillan, Charles. 1988. "Technology: A Canadian Strategy." *CMA Magazine*.

Mahon, Rianne. 1987. "From Fordism to ?: New Technology, Labour Markets and Unions." *Economic and Industrial Democracy*, Vol. 8.

Mansell, Jacquie. 1987. *Workplace Innovation in Canada: Reflections on the Past... Prospects for the Future.* Ottawa: Minister of Supply and Services.

March, Artemis, *et al.* 1989. *The U.S. Machine Tool Industry and its Foreign Competitors.* Working Paper, MIT Commission on Industrial Productivity, Cambridge, Mass.

Marchak, Patricia M. 1982. "Public Policy, Capital and Labour in the Forest Industry." In R. Warburton (ed.), *Workers, Capital and the State in British Columbia: Selected Papers.* Vancouver: UBC Press.

Marchak, Patricia M. 1983. *Green Gold: The Forestry Industry in British Columbia.* Vancouver: University of British Columbia Press.

Maritime School of Social Work. 1990. "Brief to the Senate Committee on Bill C-21." Halifax: Dalhousie University.

Marsden, Lorna. 1987. *Technological Change in Ontario: The Questions of Innovation and Control in the Small Office.* Working Paper No. 13, Studies in Communication and Information Technology. Kingston: Queen's University.

Marsden, Lorna. 1988. "Policy Instruments and Directions for Research on Workplace Technology in Canada." Paper presented to the *Information Technologies Symposium*, The University of Western Ontario, London, Ont., June.

Martin, Andrew. 1986. "The Politics of Employment and Welfare." In Keith Banting (ed.), *The State and Economic Interests*. Toronto: University of Toronto Press, Research Studies of the Royal Commission on the Economic Union, Vol. 25.

Martin, D'Arcy. 1990. "Human Resources Talk Back." Notes for a Presentation to the Financial Post Conference, *Building a Competitive Workforce*, Toronto, November.

McCurdy, Thomas H. 1987. *Employment, Income and Occupational Effects of Computer-Based Automation in Canada*. Discussion Paper No. 340. Ottawa: The Economic Council of Canada.

McCurdy, Thomas. n.d. *(Un)Employment Effects of Micro-electronic-based Technical Change: A Multisectoral Study for Canada*. Working Paper No. 2, Studies in Communication and Information Technology. Kingston: Queen's University.

McGaw, Judith. 1983. *Most Wonderful Machine: Mechanization and Social Change in Berkshire Paper Making, 1801-1885*. Lawrenceville, N.J.: Princeton University Press.

McKersie, Robert and Richard Walton. 1988. "Implementation of Information Technology: Human Resource Issues." Draft paper prepared for the *Management in the 1990s Project*, Sloan School of Management, MIT, Cambridge, Mass.

Menzies, Heather. 1981. *Women and the Chip: Case Studies of the Effects of Informatics on Employment in Canada*. Ottawa: Institute for Research on Public Policy.

Miller, S.M. 1987. "Micro Employment Policies: The Economizing of the Welfare State." Boston, Mass.: Boston University, Department of Sociology.

Mead, Lawrence. 1985. *Beyond Entitlement: The Social Obligations of Citizenship*. New York: Free Press.

Ministry of Skills Development. 1988. *Adjusting to Change: An Overview of Labour Market Issues in Ontario*. Labour Market Research Group. Toronto: Queen's Printer.

Mishra, Ramesh. 1984. *The Welfare State in Crisis*. London: Wheatsheaf Books.

Murray, Charles. 1984. *Losing Ground: American Social Policy 1950-1980*. New York: Basic Books.

Muszynski, Leon. 1988. "Manufacturing Matters! And So Does The Welfare State." Paper prepared for the conference *Manufacturing Matters*, Toronto.

Muszynski, Leon, and David Wolfe. 1987. "New Technology and Training: Lessons from Abroad." Draft paper, The University of Toronto.

Myles, John. 1988a. "The Expanding Middle: Some Canadian Evidence on the Deskilling Debate." *Canadian Review of Sociology and Anthropology*, Vol. 25, No. 3, August.

Myles, John. 1988b. "Decline or Impasse: The Current State of the Welfare State." *Studies in Political Economy*, Vol. 26, Summer.

Myles, John. 1991. "Social Structures and Welfare Policies: Perspectives for Canada and the United States." Paper presented to the *Annual Meeting, Canadian Sociology and Anthropology Association*, Kingston, Ont., June.

Myles, J., G. Picot, and T. Wannell. 1988. "The Changing Wage Distribution of Jobs, 1981-1986." *Canadian Economic Observer*, Statistics Canada, October and November.

Myles, J., G. Picot and T. Wannell. 1989. "The Declining Middle: Earnings and Wages in Canada, 1967-1986." Draft Paper.

National Advisory Board on Science and Technology. 1988. *Industry Committee Report.* Ottawa: Government of Canada.

National Advisory Board on Science and Technology. 1991. *Human Resource Development Committee Report.* Ottawa: Government of Canada.

National Anti-Poverty Organization. 1989. *You Call It a Molehill, I'll Call It a Mountain: Job Training for People on Social Assistance.* Ottawa: The National Anti-Poverty Organization.

National Council of Welfare. 1987. *Welfare in Canada: The Tangled Safety Net.* Ottawa: National Council of Welfare.

National Research Council. 1989. *Everybody Counts: A Report to the Nation on the Future of Mathematics Education.* Washington: National Academy Press.

Newton, Keith. 1985. "Employment Effects of Technological Change: Some Implications for Education." Ottawa: The Economic Council of Canada.

Newton, Keith. 1988. "Factories for the Future: Technology, People and Jobs." Ottawa: Economic Council of Canada.

Noble, David. 1984. *Forces of Production: A Social History of Industrial Automation.* New York: Oxford University Press.

Noyelle, Thierry. 1987. *Beyond Industrial Dualism: Market and Job Segmentation in the New Economy.* Boulder, Colo.: Westview Press.

O'Farrell, P.N. in association with Gardner Pinfold Consulting Economists Ltd. 1990. "Small Manufacturing Competitiveness and Performance: An Analysis of Matched Pairs in Nova Scotia and New England." Halifax: Council of Applied Science and Technology, Government of Nova Scotia.

O'Grady, John. 1990. "Re-aligning Canadian Labour Market Policy: The Action up to the First Intermission." *Second Annual Research Workshop*, Canadian Labour Market and Productivity Centre, Ottawa, September 24-26.

Office of Technology Assessment. 1986. *Technology and Structural Unemployment: Re-employing Displaced Adults*. Washington: U.S. Government Printing Office.

Ontario Social Assistance Review Committee. 1988. *Transitions*. Toronto: Queen's Printer for Ontario.

Ontario Task Force on Employment and New Technology. 1985. *Emerging New Technology 1985-95: Framework for a Survey of Firms*. Toronto: Queen's Printer for Ontario.

Organization for Economic Co-operation and Development. 1988. "Technology and Employment." Chapter 6 in *Employment Outlook*. Paris: OECD.

Osberg, Lars. 1986. "The Information Economy and its Implications for Trends in Social Inequality." Paper prepared for the conference *Trends in Social Inequality*. The University of Western Ontario, London, October 17-19.

Osberg, Lars. 1988a. "The Future of Work in Canada: Trends, Issues, and Forces for Change." Working Paper No.11, *Work and Income in the Nineties*. Ottawa: Canadian Council on Social Development.

Osberg, Lars. 1988b. "The Future of Work in Canada: Selected Policy Options." Working Paper No.12, *Work and Income in the Nineties*. Ottawa: Canadian Council on Social Development.

Osberg, Lars. 1988c. "Visions of Canada in the Year 2000: Distributional Issues and the Future of the Welfare State." Paper presented to the conference *Perspective 2000*. Ottawa: Economic Council of Canada, November 30-December 1.

Osberg, Lars. 1990. "Sustainable Social Development." Draft paper. Halifax: Dalhousie University, Department of Economics.

Osberg, Lars, Edward N. Wolff and William J. Baumol. 1989. *The Information Economy: The Implications of Unbalanced Growth*. Halifax: The Institute for Research on Public Policy.

Osborne, David. 1988. *Laboratories of Democracy*. Boston: Harvard Business School Press.

Patterson, James. 1986. *America's Struggle Against Poverty 1900-1985*. Cambridge, Mass.: Harvard University Press.

Physician Task Force on Hunger in America. 1987. *Hunger Reaches Blue Collar America: An Unbalanced Recovery in a Service Economy*. Cambridge, Mass.: Harvard School of Public Health, Harvard University.

Piore, Michael J. 1987. "Corporate Reform in American Manufacturing and the Challenge to Economic Theory." Cambridge, Mass.: Department of Economics, MIT.

Piore, Michael J. 1988. "Post-Reagonomics: The Resurgence of the Social Sphere in Economic and Political Life?" Draft Paper. Cambridge, Mass.: Department of Economics, MIT.

Piore, Michael J. and Charles F. Sabel. 1984. *The Second Industrial Divide: Possibilities for Prosperity*. New York: Basic Books.

Premier's Council. 1988. *Competing in the New Global Economy*. Vols. I and II. Toronto: Queen's Printer for Ontario.

Premier's Council. 1990. *People and Skills in the New Global Economy*. Toronto: Queen's Printer for Ontario.

Preston, R.S. 1988. "Structural Change in the Labour Market." Presentation made to the conference *New Visions: Directions for Social and Economic Change*, Halifax, October 3-4.

Province of Nova Scotia. 1988. *Foundation for the Future: A White Paper on a Community College System for Nova Scotians*. Halifax: The Department of Advanced Education and Job Training.

Psacharopoulos, George. 1988. "Future Trends and Issues in Education." Paper presented to the conference *Perspective 2000*. Ottawa: Economic Council of Canada, November 30-December 1.

*Quarterly Labour Market Productivity Review*. Ottawa: The Canadian Labour Market Productivity Centre, Spring 1988; Winter 1988; Fall 1990; Spring/Summer 1990; Winter/Spring 1991.

Rehn, Gosta. 1987. "State, Economic Policy and Industrial Relations in the 1980s: Problems and Trends." *Economic and Industrial Democracy*, Vol. 8, pp. 61-79.

Reich, Robert. 1989. "As the World Turns." *The New Republic*, May 1.

Reischauer, Robert. 1987a. "Welfare Reform and the Working Poor." In Center for National Policy, *Reducing Poverty and Dependency*. Washington: National Academy Press.

Reischauer, Robert. 1987b. "Welfare: Will Consensus Be Enough?" The Brookings Institution: *The Brookings Review*, No. 5, Summer.

Reischauer, Robert. 1989. "The Welfare Reform Legislation: Directions for the Future." In David Ellwood and Phoebe Cottingham (eds.), *Welfare Policy for the 1990s*. Cambridge, Mass.: Harvard University Press.

*Report of the CLMPC Task Forces on the Labour Force Development Strategy*. 1990. Ottawa: The Canadian Labour Market and Productivity Centre.

Robertson, David. 1990. "Workplace Restructuring and the CAW Response." Paper prepared for the *Annual Meeting of the Canadian Sociology and Anthropology Association*, Victoria, B.C., May.

Roos, Daniel. 1989. "Global Technology Development Efforts in the Automotive Industry." Presentation to the *Symposium on the Technology Development Process: An International Comparative Perspective*, MIT, Cambridge, Mass., April 25-26.

Royal Commission on Employment and Unemployment. 1986. *Building On Our Strengths.* St. John's: Government of Newfoundland.

Royal Commission on the Economic Union and Development Prospects for Canada. 1985. *Report*, Vols. I, II, III. Ottawa: Minister of Supply and Services Canada.

Rudolph, Stephen. 1990. "Global Trends in R and D: Transnational Sourcing of Technology." Presentation to the *Symposium on the Technology Development Process: An International Comparative Perspective*, MIT, Cambridge, Mass., April 25-26.

Sabel, Charles. 1988. "The Re-emergence of Regional Economies." Draft paper. Cambridge, Mass.: Department of Political Science, MIT.

Schlefer, Jonathan. 1989. "Making Sense of the Productivity Debate: Reflection on the M.I.T. Report." *Technology Review*, Vol. 92, No. 6, August/September.

Science Council of Canada. 1988. "Gearing Up For Global Markets: From Industry Challenge to Industry Commitment." Ottawa: The Science Council of Canada.

Senate Committee on Social Affairs, Science and Technology. 1991. *Children in Poverty: Toward a Better Future.* Ottawa: Minister of Supply and Services.

Seward, Shirley B. and Mario Iacobacci (eds.). 1987. *Approaches to Income Security Reform.* Halifax: The Institute for Research on Public Policy.

Shaiken, Harley. 1984. *Work Transformed: Automation and Labour in the Computer Age.* New York: Holt, Rinehart and Winston.

Sharpe, Andrew. 1988. "Productivity Trends and Issues in the Eighties." Paper presented to the *Annual Congress of Quebec Economists*, Montreal, April.

Simeon, Richard. 1988. "Global Economy/Domestic Society: Competing Challenges to Governance in Canada." Paper prepared for the *IRPP/NAIRA Symposium*, Vancouver.

Skocpol, Theda, Margaret Weir and Ann Shola Orloff. 1988. "Introduction: Understanding American Social Politics." In Weir, Orloff and Skocpol (eds.), *The Politics of Social Policy in the United States.* Princeton, N.J.: Princeton University Press.

Solway, Jeffrey. 1988. "The Business of Synergy." *Policy Options*, Vol. 9, No. 9, November.

Standing, Guy. 1988. *Unemployment and Labour Market Flexibility: Sweden.* Geneva: International Labour Organization.

Statistics Canada. 1987-1990. *The Labour Force.* Ottawa: Statistics Canada.

Steed, Guy and Scott Tiffin. 1986. *A National Consultation on Emerging Technology.* Ottawa: The Science Council of Canada.

Stewart, Ian. 1988. "Consensus and Economic Performance." Paper presented to the conference *Perspective 2000.* Ottawa: Economic Council of Canada, November 30-December 1.

Sum, Andrew, and Neal Fogg. 1988. "Labor Market Turbulence and the Employment and Earnings of Young Males." Boston: Center for Labor Market Studies, Northeastern University.

Task Force on Approaches to Full Employment. 1988. *Working Paper,* City of Halifax, September.

Taylor, Laura, (ed.). 1991. *The State of the Child in Ontario.* Toronto: Oxford University Press.

Tester, Frank. 1991. "The Globalized Economy: What Does it Mean for Canadian Social and Environmental Policy?" *Canadian Review of Social Policy,* No. 27, May.

Therborn, Goran. 1986. *Why Some Peoples Are More Unemployed Than Others: The Strange Paradox of Growth and Unemployment.* London: Verso.

Thompson, Paul. 1983. *The Nature of Work: An Introduction to Debates on the Labour Process.* London: The Macmillan Press.

Thurow, Lester. 1988. "Managing the Globalization of Business." Cambridge, Mass.: Sloan School of Management, MIT.

Trebilcock, M.J., *et al.* 1988. *Adjusting to Trade: A Comparative Perspective.* Ottawa: Discussion Paper No. 358, The Economic Council of Canada.

Wacquant, Loic, and William Julius Wilson. 1989. "Poverty, Joblessness, and the Social Transformation of the Inner City." In Phoebe Cottingham and David Ellwood (eds.), *Welfare Policy for the 1990s.* Cambridge, Mass.: Harvard University Press.

Warrian, Peter. 1989. "Trade Union and Labour Market Planning: The Case for Sectoral Regulation." Paper presented to the seminar *The Future of Social Democracy,* University College, University of Toronto, March 17.

Weir, Margaret, Ann Shola Orloff and Theda Skocpol. 1988. "Introduction: Understanding American Social Politics." In their book *The Politics of Social Policy in the United States.* Princeton: Princeton University Press.

Wien, Fred. 1986. *Rebuilding the Economic Base of Indian Communities: The Micmac in Nova Scotia.* Montreal: The Institute for Research on Public Policy.

Wien, Fred and Joan Browne. 1981. "A Report on Employment Patterns in the Black Communities of Nova Scotia." Halifax: Institute of Public Affairs, Dalhousie University.

William T. Grant Foundation. 1988. *The Forgotten Half: Pathways to Success for America's Youth and Young Families.* Washington: The William T. Grant Foundation Commission on Work, Family and Citizenship.

Wilson, Gerald. 1987. "One Man's View." *Technology Review*, November/December.

Wilson, William Julius. 1987. *The Truly Disadvantaged: The Inner City, The Underclass, and Public Policy.* Chicago: The University of Chicago Press.

Wolfe, David. 1990a. "The Management of Innovation." In Liora Salter and David Wolfe (eds.), *Managing Technology: Social Science Perspectives.* Toronto: Social Science Federation of Canada, Garamond Press.

Wolfe, David. 1990b. "Innovation and the Labour Process." In Liora Salter and David Wolfe (eds.), *Managing Technology: Social Science Perspectives.* Toronto: Social Science Federation of Canada, Garamond Press.

Womack, James. 1989. *The U.S. Automobile Industry in an Era of International Competition: Performance and Prospects.* Cambridge, Mass.: MIT Commission on Industrial Productivity Working Paper.

Words Associated and Keith Newton. 1986. *Workable Future: Notes on Emerging Technologies.* Ottawa: Minister of Supply and Services Canada.

Zuboff, Shoshana. 1988. *In the Age of the Smart Machine: The Future of Work and Power.* New York: Basic Books.

# L'Institut de recherches politiques

## Une présence nationale

Créé en 1972, l'Institut de recherches politiques est un organisme national et indépendant à but non lucratif, possédant des bureaux d'un bout à l'autre du Canada.

La mission de l'Institut est d'améliorer la politique d'État au Canada en encourageant un processus politique plus général, mieux informé et plus efficace et en contribuant à la mise en application de ce processus. Pour remplir cette mission, l'Institut :

- identifie les questions importantes auxquelles devra faire face le Canada dans un avenir à long terme et entreprend des recherches indépendantes sur ces questions;
- favorise la dissémination générale des résultats-clés des activités de recherches (celles menées par l'Institut et d'autres);
- encourage le débat impartial et la critique de questions de politique d'État, de manière à provoquer la participation de tous les secteurs et de toutes les régions de la société canadienne, et établit la liaison entre la recherche et les mécanismes d'apprentissage social et d'élaboration de politiques.

## Direction de l'Institut

L'Institut est dirigé par un Conseil d'administration, conseillé par des représentants des gouvernements fédéral, provinciaux et territoriaux et d'autres organismes nationaux de recherche, ainsi que par des groupes d'experts venant de l'extérieur, qui se réunissent en comités consultatifs pour aider le Comité de recherches. La présidente, en tant qu'administratrice en chef, est responsable de la mise en pratique et de l'administration des politiques et des programmes de l'Institut, ainsi que de la direction du personnel.

## Mode de fonctionnement

L'Institut est décentralisé; ses chercheurs sont établis d'un bout à l'autre du Canada, ce qui permet d'assurer que toutes les régions contribuent aux recherches entreprises. L'Institut travaille également en collaboration avec des chercheurs particuliers ou des instituts d'autres pays.

Les chercheurs sont engagés sur une base contractuelle pour un temps limité, souvent pour la durée d'un projet spécifique. Cette politique permet à l'Institut non seulement de renouveler régulièrement son personnel de recherche, afin de refléter le caractère évolutif de son programme de recherche, mais aussi d'employer un plus grand nombre de chercheurs de premier ordre.

## Indépendance et neutralité

L'indépendance de l'Institut est assurée par les revenus d'un fonds de dotation auquel ont souscrit les gouvernements fédéral et provinciaux, ainsi que le secteur privé. L'Institut obtient en outre des subventions et des contrats de la part des gouvernements, des entreprises et des fondations, pour soutenir les activités de ses programmes et pour mener à bien des projets de recherche particuliers.

L'Institut favorise la compréhension et la discussion publiques de questions d'envergure nationale, controversées ou non, et publie les conclusions de ses recherches avec clarté et impartialité. Il n'exerce aucun contrôle ou influence ni sur la conduite des projets de recherche, ni sur les conclusions qui en découlent : les recommandations ou les conclusions énoncées dans les publications de l'Institut sont strictement celles de l'auteur et n'engagent aucunement l'Institut, le Conseil d'administration ou les collaborateurs. L'Institut observe une attitude de neutralité envers les questions de politique d'État.

La décision de diffuser l'information au nom de l'Institut est la responsabilité ultime de la présidente. Elle bénéficie à cette fin des conseils du personnel de l'Institut et de ceux des lecteurs extérieurs, quant à l'exactitude et à l'objectivité d'un manuscrit. Seuls sont publiés les manuscrits qui traitent de façon compétente d'un sujet digne de l'intérêt du public. Les publications de l'Institut paraissent dans la langue de l'auteur et sont accompagnées d'un résumé rédigé dans les deux langues officielles.

# The Role of Social Policy in Economic Restructuring

**by Fred Wien**

This study examines the changing economic base in Canada and the United States and the implications for social policy. It outlines three forces reshaping the economy: increased international competition; fragmentation and uncertainty of markets; and continuing growth of science and technology.

The onus for change in the workplace is on management and labour. But governments can take education and training initiatives, set parameters for bargaining and labour relations, and provide incentives for, or constraints on, economic restructuring.

Some see restructuring only in terms of technology, investment, or increased levels of output. Others view social policy as relevant mainly in responding to social problems created by economic changes. A third view is that social policy is important for the smooth functioning of the economy. A final perspective is that it cannot only facilitate restructuring but should be aggressive in economic reorganization.

The book examines the various actual and potential roles of social policy. It concludes with a discussion of the changing process of policy formation in the new economic environment, and the prospects for social policy change in the 1990s.

ISBN 0-88645-140-X

The Institute for Research on Public Policy
L'Institut de recherches politiques
*A national, independent, research organization*
*Un organisme de recherche national et indépendant*